SAMSUNG New DVM-Pro

User Manual (Cad mode)

English Version

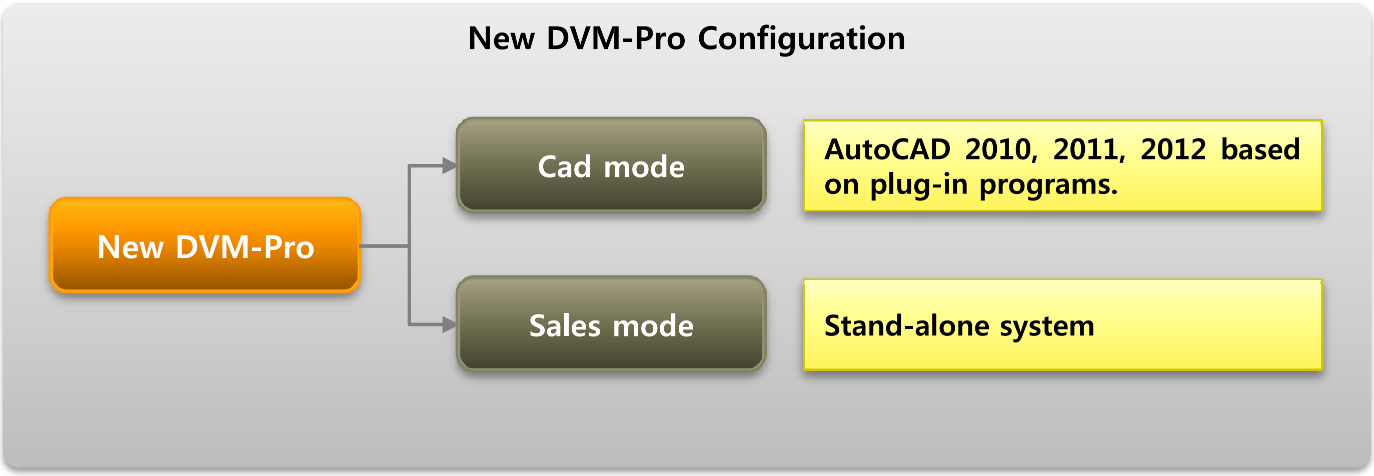
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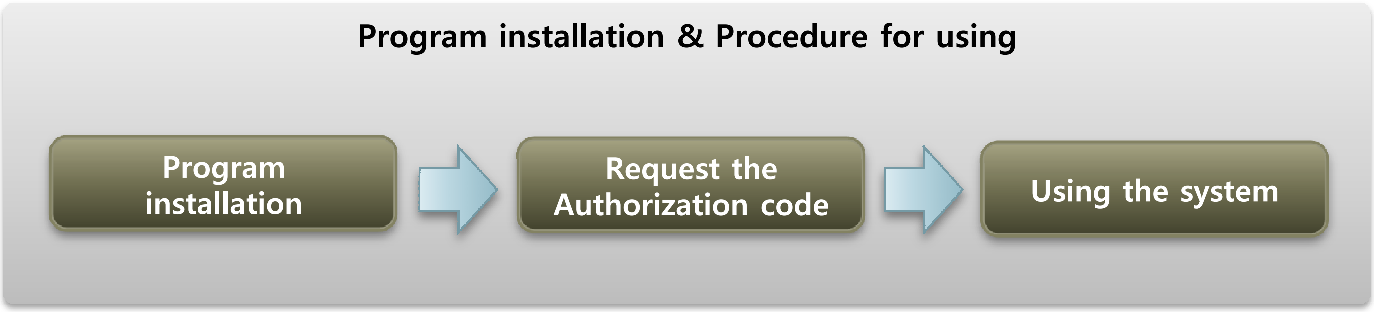
00 Contents

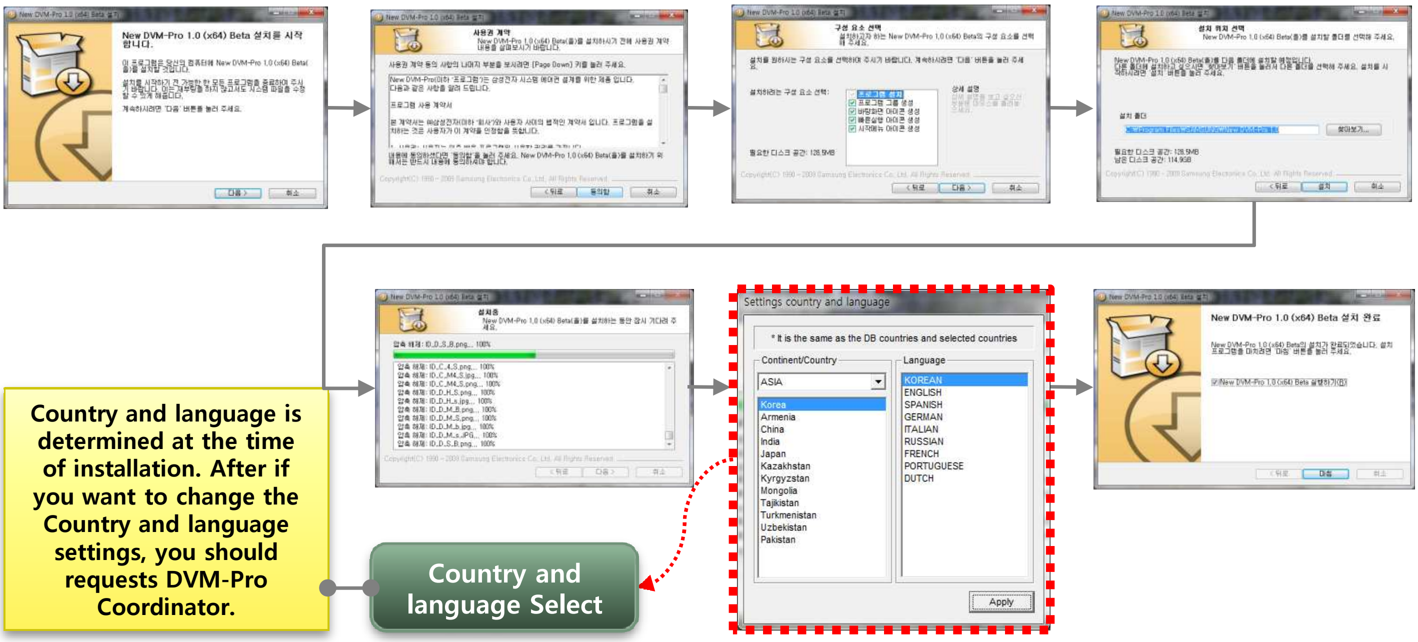
01 New DVM-Pro Installation & Execution

설명

- New DVM-Pro is support the Windows XP/Vista/7 32bit, 64bit.
- After installation, you need to obtain Authorization code in order to use DVM-Pro.
- New DVM-Pro is composed of ‘Cad mode’ and ‘Sales mode’



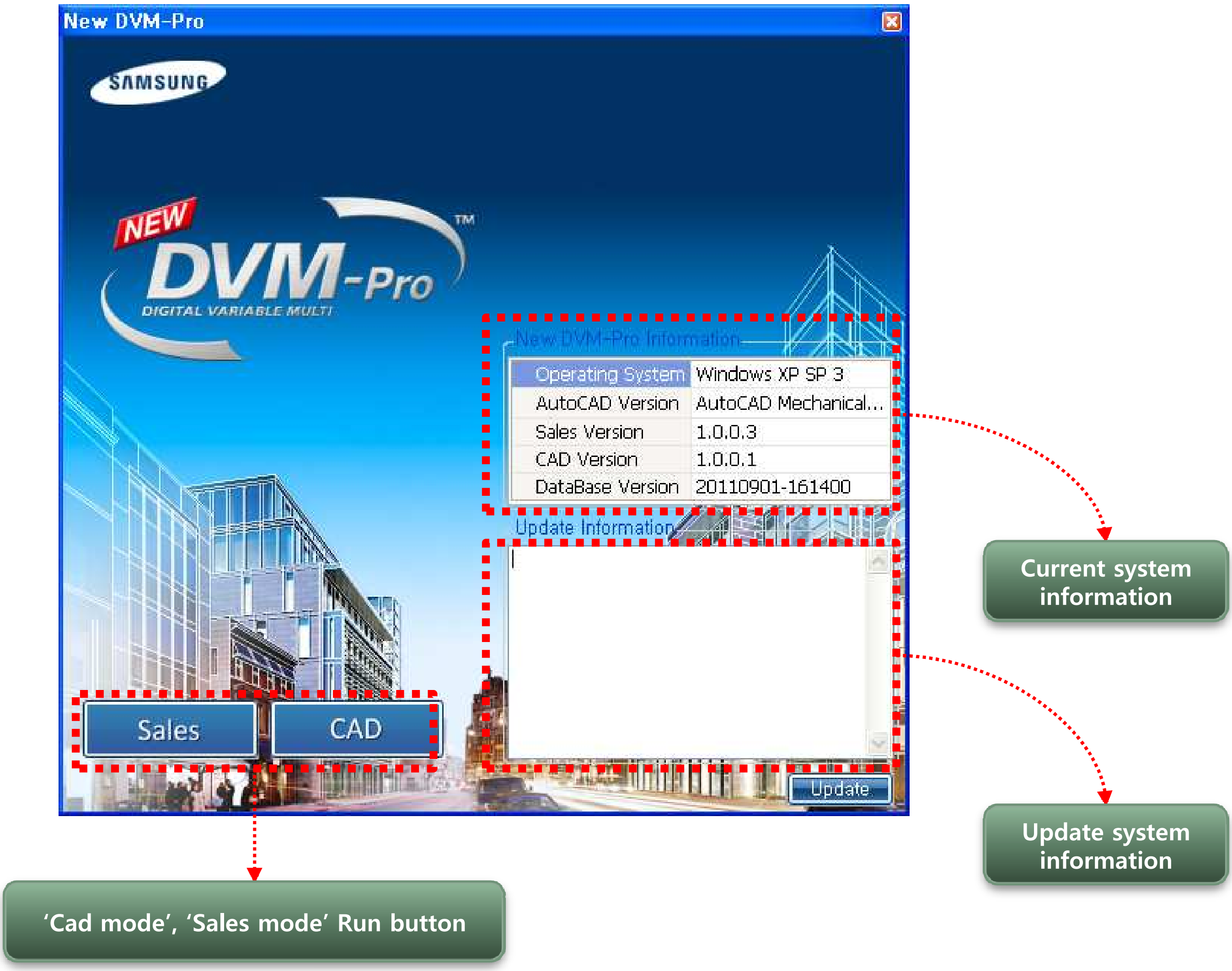




01 New DVM-Pro Installation & Execution

설명

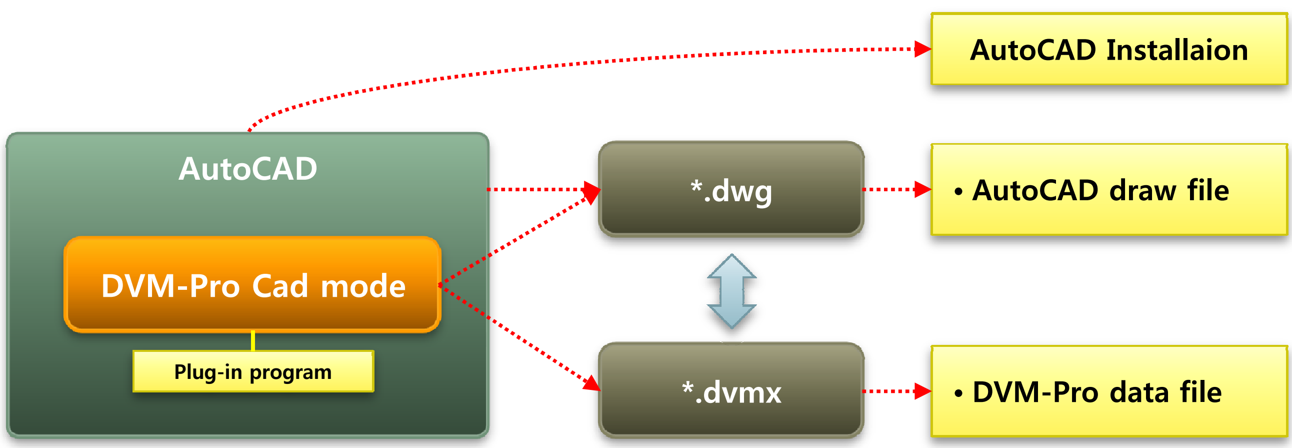
- When you run the New DVM-Pro, It is to choose one of two things as New DVM-Pro is composed of 'Cad mode' and 'Sales mode'
- When It need the update, Update Information displayed update information. User can update this optionally.



02 Cad mode outline

설명

- DVM-Pro Cad mode is AutoCAD plug-in program. Auto cad must be installed to use DVM-Pro cad mode
- Designed by the cad mode, data is saved two forms(*.dwg,*.dvm).
- *.dwg is drawing file in the cad program.
- *.dvmx is DB file such as all of In/Outdoor, distribution kit, Capacity Calculation, piping check in drawing files for the design of air conditioning systems.
- One project have two forms file. And the two files data is linked.
- When you open the DVM-Pro, Open the *.dwg file from Drawing connection icon as *.dvmx file are automatically generated at the same time of open the DVM-Pro.



※ Notice

- Instructions on how to use the Cad mode

→ Enable/disable command list (When you use AutoCAD command, it may not work properly in Cad mode. because, DVM-Pro cad mode is plug-in program)

Function	Enable/ disable	Indoor	Outdoor	Piping, Pipe fittings, distributor kit etc.
Insert	Enable	Dvm command : Add/Copy indoor CAD command : Copy , Array, Mirror	Dvm command: draw outdoor	All of command available
	Disable	CAD command : Insert , Undo, Redo	CAD command : Disable	
Delete	Enable	Dvm command : Delete indoor CAD command: Erase, Delete, Undo, Red	Dvm command: Delete indoor CAD command: Erase, Undo, Redo	

→ One drawing file is One building at the time of design in DVM-Pro cad mode.

→ When design in DVM-Pro cad mode, if you change the layer, *.dvm connection may be lost.

03 Cad mode Procedure for using

Explain This is cad mode procedure for using when design the new project. This procedure is not included modify procedure.

01 Project Registration

02 Space management
- Add the floor in the space management windows
- Specify the floor boundary

03 Clean architectural drawing layers
- When design air-conditioning drawing, need to architectural drawings, but almost no work to modify. So, disabling a layer of architectural drawings and change gray color to help convenient design work.

04 Add In/outdoor
- When add indoor, The area recognized the room and it will be added room Automatically.

05 In/Outdoor connection
- It can continue to draw level that all of indoor and outdoor unit must be a connection.
- After select in in/outdoor connection windows, you can drawing outdoor.

06 Pit drawing
- Select the pit in the pit drawing window, you can draw multiple outdoor pit.

07 Pipe drawing
- It can draw the pipe through Draw pipe/pipe accessories, Draw communication wires/wired remote controller.
- It can connected main pipe to multiple indoor at once, automatically Through Draw piping automatically, Draw drain pipe automatically

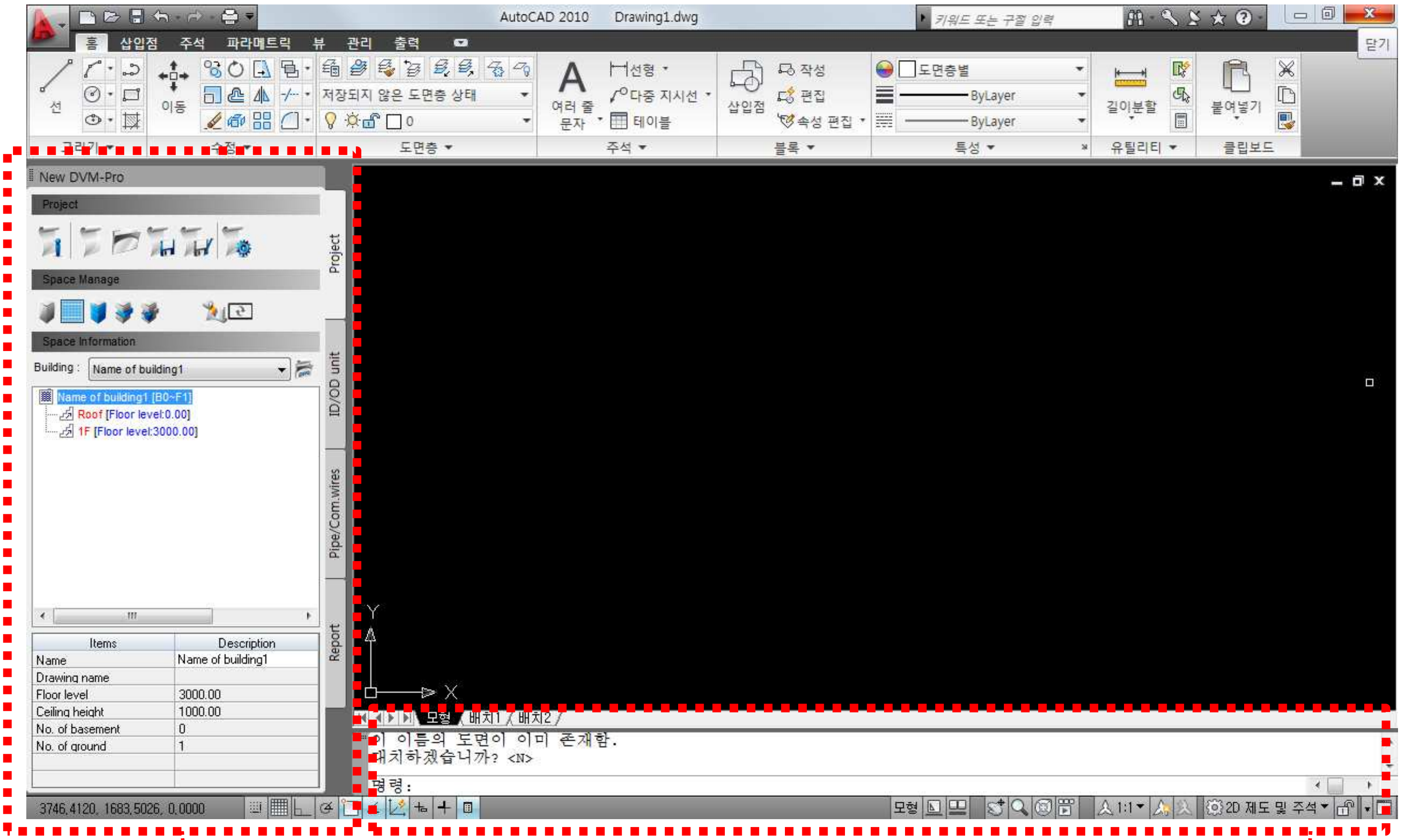
08 System check
- Refrigerant pipe connection , pipe length and pipe level difference etc is checked.
- When system check is error, modify the part of guided in system check and check again.
- Drain pipe connection is checked.
- the end of the system check, pipe diameter is placed automatically.

09 Control lines drawing
- If click on the indoor to indoor, Communication wires and wired remote controller can connected by a line.

10 Piping remarks & Piping Diagram
- Insert the pipe remarks
- Insert piping diagram by click on the list in order on the piping diagram field of report.

11 Control Diagram
- Insert control diagram by click on the list in order on the control diagram field of report.

04 Cad mode interface



DVM-Pro Menu

- It used in DVM-Pro cad mode
- It can control all progress functions in DVM-Pro cad mode
- It made in a palette form of Auto cad

AutoCAD commend

- Built in Auto cad interface
- More options for running the command information can be checked in cad mode.

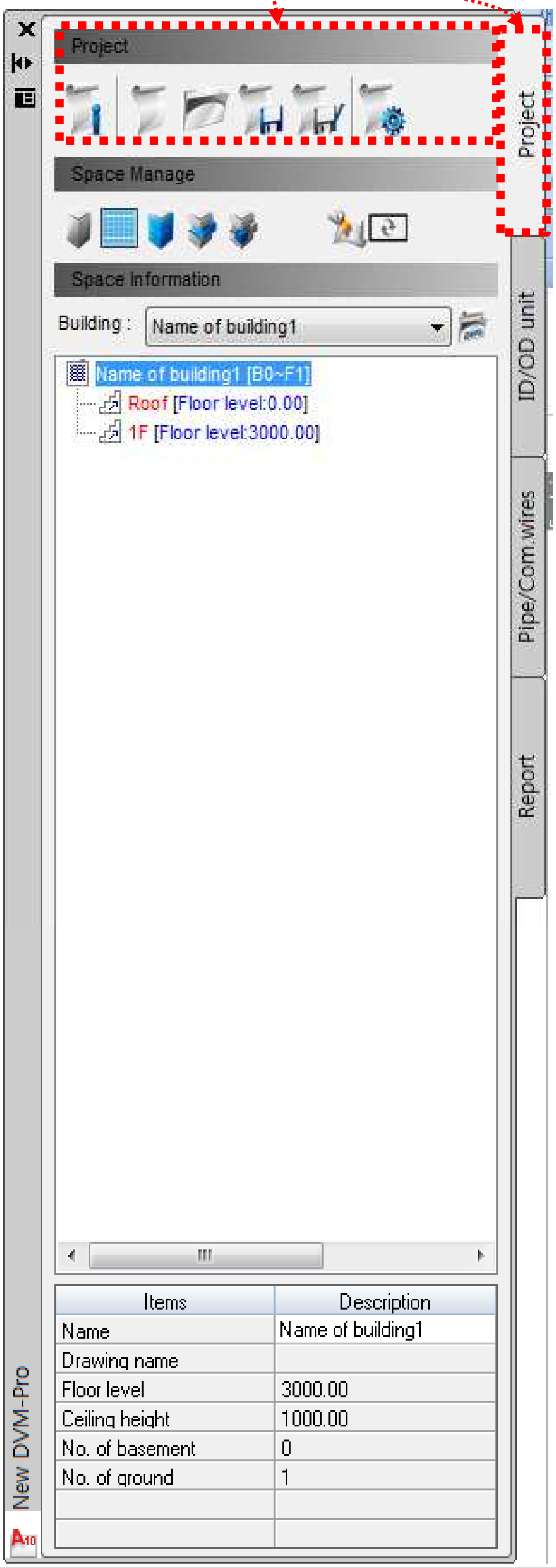
04 Cad mode interface

Project

Explain

Possible to create the new project and start the project in cad mode palette.

New Project/Management Menu





- View and modify the project information
  - Possible to modify and view the project name, customer information, architect information in the 'modify the project information' window
  - Possible to view save path.
  - It can select the local temperature. It can be designed exact temperature for the region.



- New project
  - It create a new project menu. It can enter the project information from same 'project information window'.



- Open project
  - Select the existing project files and open menu, when open the *.dvmx file, open the linked *.dwg file automatically.



- Save project
  - Save the current project.



- Save as the current project
  - Save the current project with a different name
  - If this saved same path, original *.dwg file may be lost. It should be save new folder.



- Preferences
  - Set the detail using menu

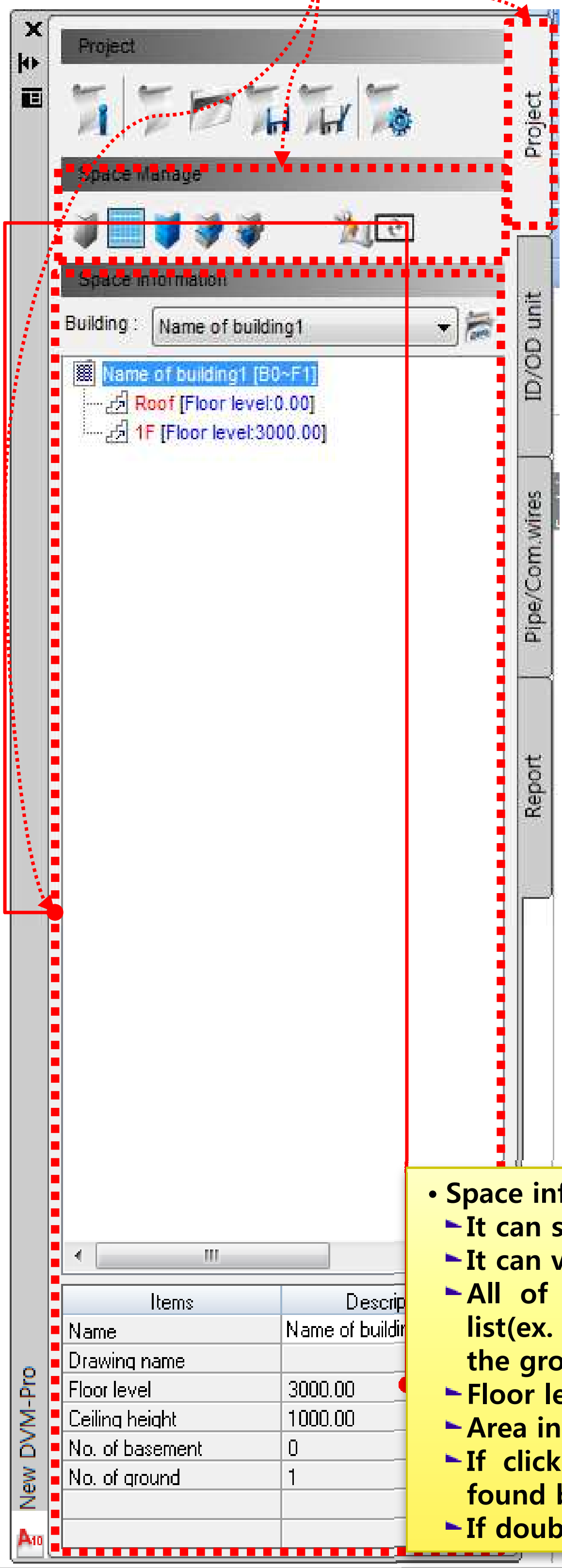
04 Cad mode interface

Project (Space management)

Explain

It can register and start a new project when using command palette of cad mode.

Space management menu



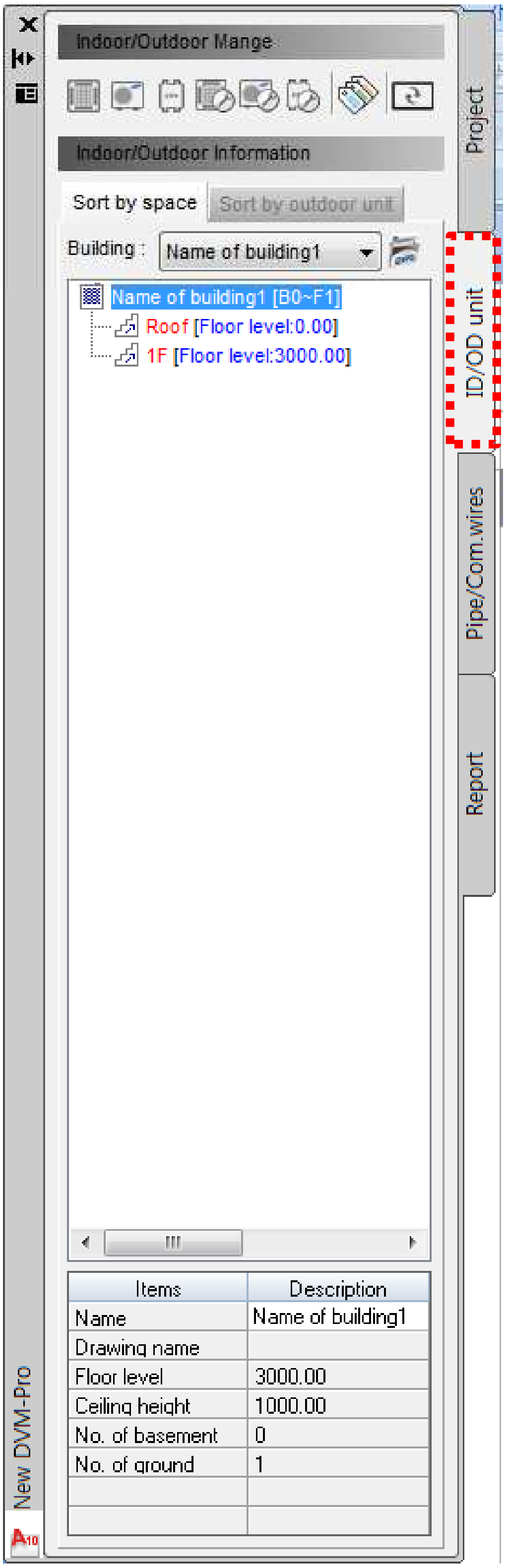
- Space management
  - Enter the building name.
  - It can create/modify the each floor, floor height, distance between ceiling.
  - It can create/modify the room which get into indoor .
  - It can upload the Excel file which include building, floor, room information.
- Select the building's drawing
  - Select the corresponding drawing of the selected building.
- Floor area select batch
  - Select the floor area continuously.
  - It's progress First floor in order to roof floor. First floor of the specified zoning box is intended to specify the upper floors by clicking.
- Floor area individual selection
  - Select the floor area.
- Room zoning
  - If add the room in information, it is connected to drawing.
- Architectural drawing background processing
  - Change the architectural drawing color in gray and lock layer
- Renewal
  - Renewal the space information.
- Space information list
  - It can select the building.
  - It can view floor, room information of building.
  - All of the floor information displayed Next to the building list(ex. B0~F1) 'B'is the basement, '0'is basement floors, 'F' is the ground, '1'is the ground floors.
  - Floor level displayed next to the floor list.
  - Area information displayed next to the room list.
  - If click each building, floor, room, More information can be found below.
  - If double click each floor and room, The drawing is zoom-in.

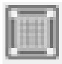
04 Cad mode interface

In/Outdoor - 1

Explain

This interface is possible to create and manage the in/outdoor.





- **Add indoor unit**
  - After specify the area, 'add indoor unit window' is open.
    - If the room area already designated, 'enter' key no need to specify the area as it's open a window directly.
  - Possible to create & view indoor information such as room name, area, unit load per area, indoor number in 'Add indoor unit' window.
  - It have three menu(Indoor name, family, type) to choose indoor model.
  - Indoor spec displayed indoor information box.
  - Placed indoor unit in a variety of ways.



- **Draw outdoor unit**
  - a. After selected the indoor unit which connected to outdoor unit, 'add outdoor unit' window open.
  - b. Select the combination ratio, outdoor type, outdoor name, by the outdoor group, series.
  - c. outdoor combination ratio is list-up within the above conditions. And image, drawing, outdoor spec is displayed.
  - d. connection possible or impossible of indoor model information is displayed indoor information box. It's displayed in blue, red, each. Also, possible to add, remove or connection impossible of the indoor remove about this indoor unit.
  - e. After select outdoor from a list, select the detail menu from command box and insert it.
  - f. if you delete the outdoor unit, it's outomatically turned off between the indoor.



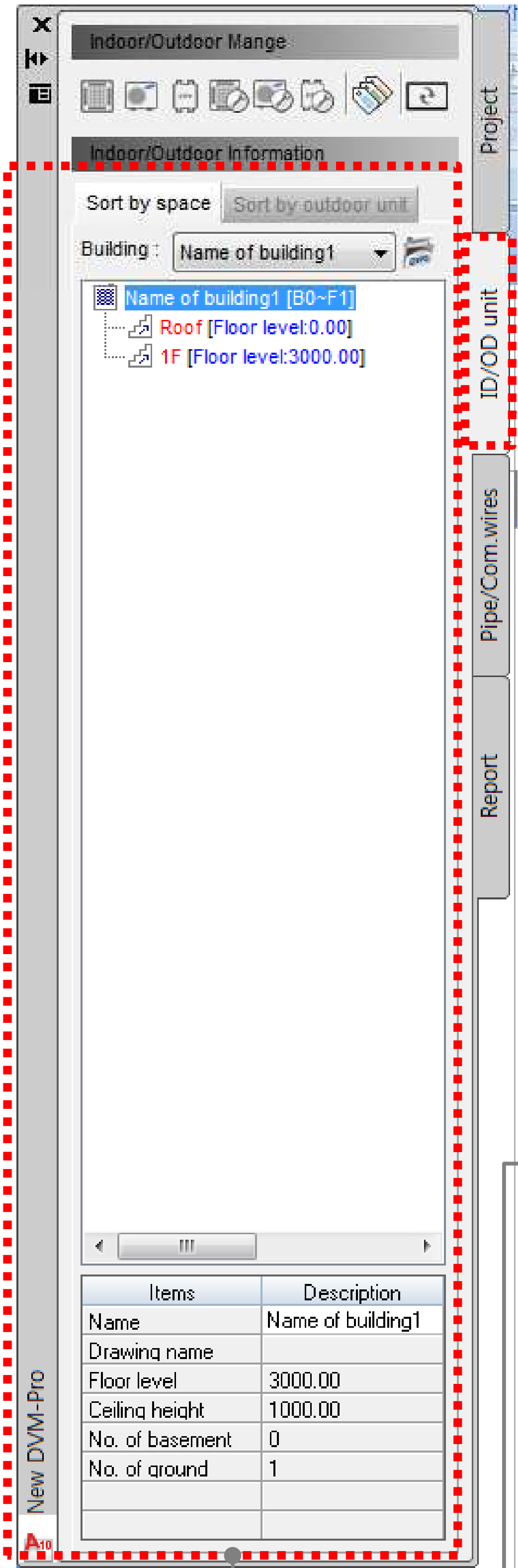
- **Add ERV**
  - After specify the area, 'add ERV unit' window is open.
    - If the room area already designated, 'enter' key no need to specify the area as it's open a window directly.
  - Possible to check the number of ERV through ventilation requirements, time, personnel information .
  - If click each ERV indoor, More information can be found below.

04 Cad mode interface

In/Outdoor - 2

explain

This interface is possible to create and manage in/outdoor





- Modify the indoor, ERV indoor, outdoor.
  - Possible to modify the each unit.



- Select the accessories
  - Possible to set the indoor and outdoor accessories.



- Renewal
  - Space information renew as recently.
  - You don't need to this menu every time. Space information renew automatically. But if it no work, you can renew by this menu.

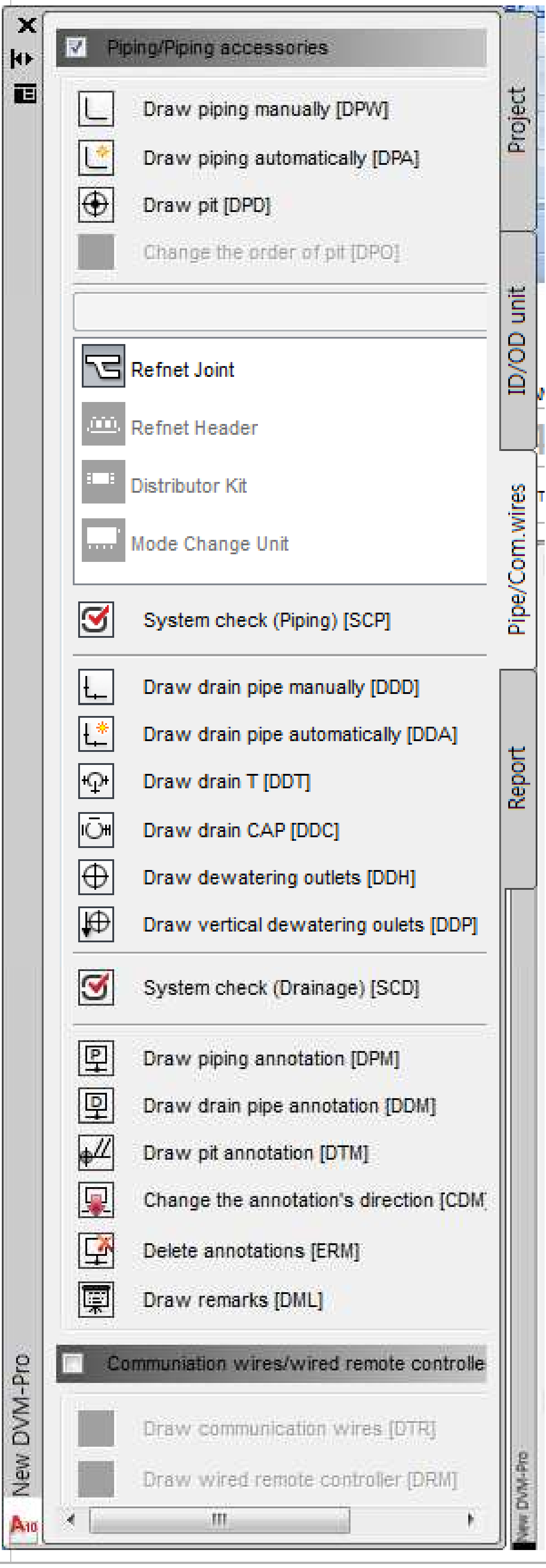
- Space information list of in/outdoor
  - Possible to check each building, floor, room location information and unit location information.
  - It's same the project tab information that displayed next to building, floor, room information and model name is displayed next to in/outdoor list.
  - If click each building, floor, room, More information can be found below.
  - If double click each floor and room, The drawing is zoom-in.

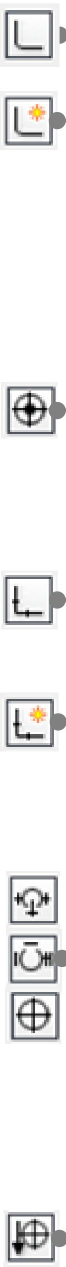
04 Cad mode interface

Piping/control line

Explain

This interface is possible to create and manage piping/control line.





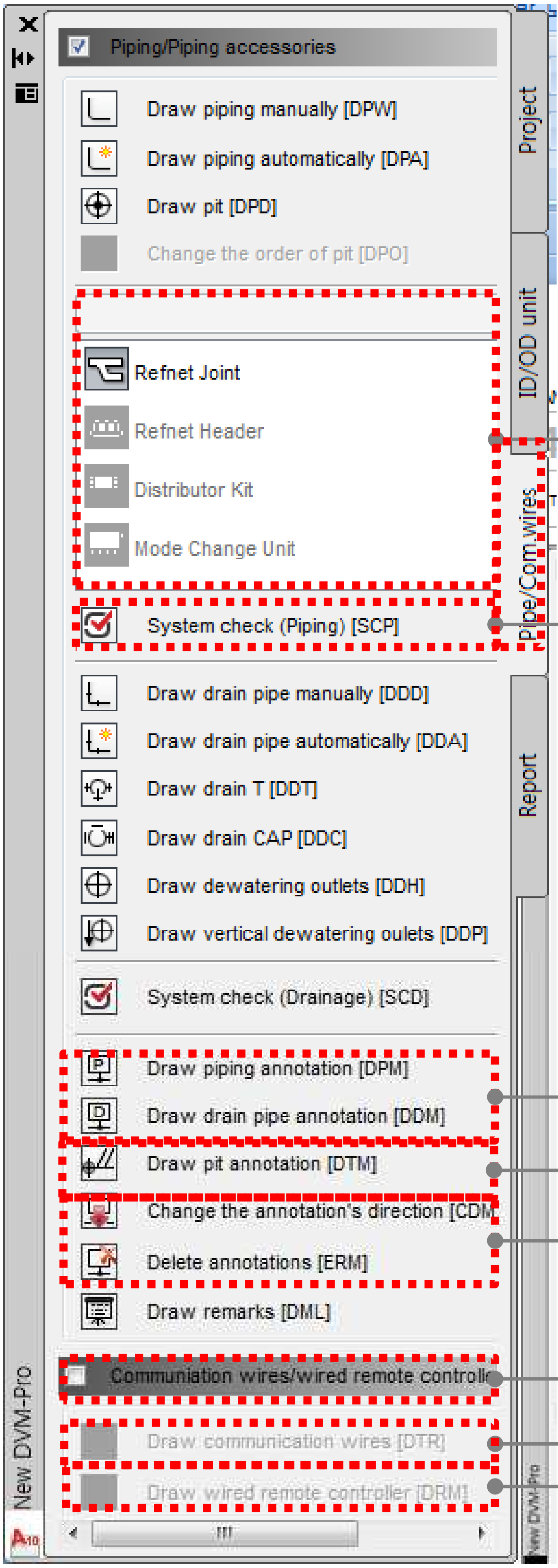
- **Draw piping manually**
  - When connect pipe using refnet joint,
- **Draw piping automatically**
  - After Select the main pipe which drawn and select the indoor which will connect, than enter, indoor will automatically connect to main pipe.
- **Draw pit**
  - Select and check the deployment method of outdoor pit in 'draw pit'window. And click the insertion point, and then copy to each floor.
- **Draw drain pipe manually**
- **Draw drain pipe automatically**
  - After draw the main pipe, select the indoor which will connect and click enter key. Then indoor will connect the main pipe.
- **Insert the each pipe accessories on pipe.**
  - If pipe accessories(refnet joint, Tee joint) connected the pipe, pipe automatically disconnect where the accessories enters.
  - If you delete the pipe accessories which connect the pipe, pipe connect again.
- **Draw vertical dewatering outlets**
  - Select and check the deployment method of outdoor pit in ' draw vertical dewatering outlets'window. And click the insertion point, and then copy to each floor.

04 Cad mode interface

Piping/control line

Explain

This interface is possible to create and manage the piping/control line.



- **Pipe accessories**
  - **a. when select the outdoor unit, accessories activation that connectable.**

- **System check**
  - **Check the status of the design drawings and present the problem. It make users to modify it.**
  - **System check can determine the suitability of design and can be minimized design errors by user.**

- **Draw piping and drain annotation/change the annotation's direction.**
  - **After finished the system check, piping annotation draw to center of each pipe with a choice of all/zoning option.**
  - **If use the change the annotation's direction menu and click the piping annotation, it will change.**

- **Draw pit annotation**
  - **After select the direction of pit and click the enter key, annotation pit inserted.**

- **Communication wires & controller**
  - **If you select this, you can show only communication wires & controller layers.**

- **Draw communication wires**
  - **Darwing from the pit or free space, then click indoor and next indoor. When selection finished, click the enter key.**

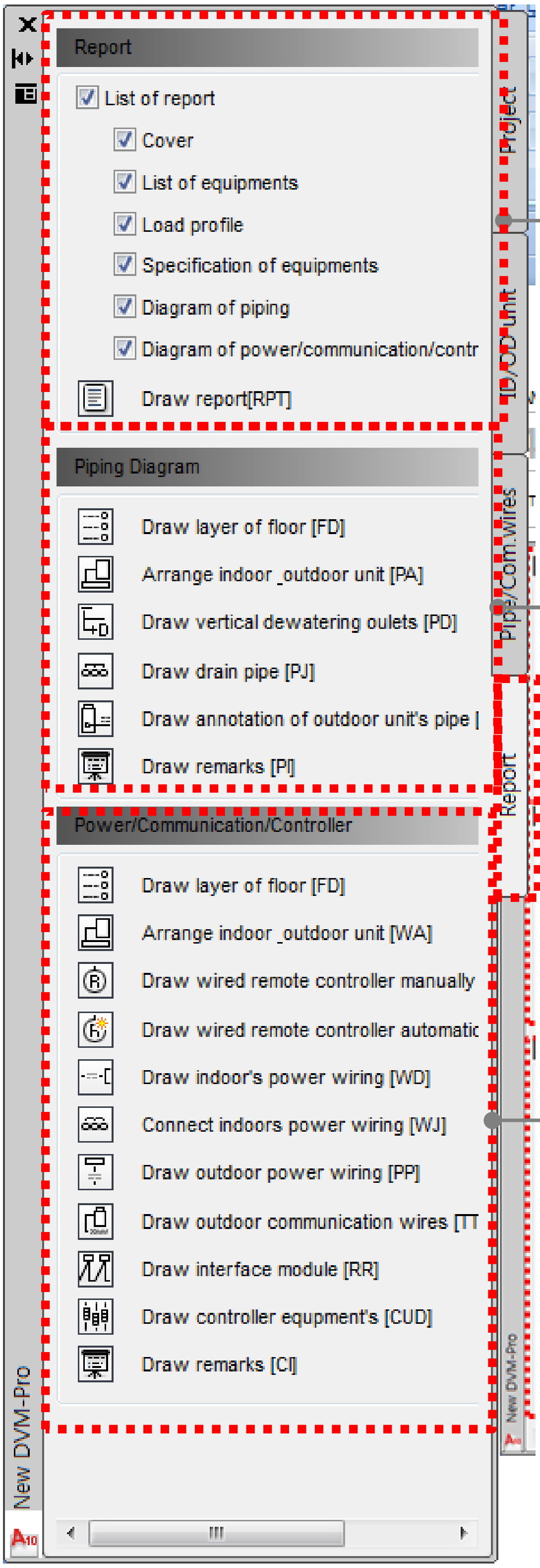
- **Draw wired remote controller manually**
  - **Clicking from the indoor, then when selection finished, click the remote location and enter key. When this finished, remote control icon will insert.**

04 Cad mode interface

Report

Explain

This interface is possible to create and manage the piping/control line.



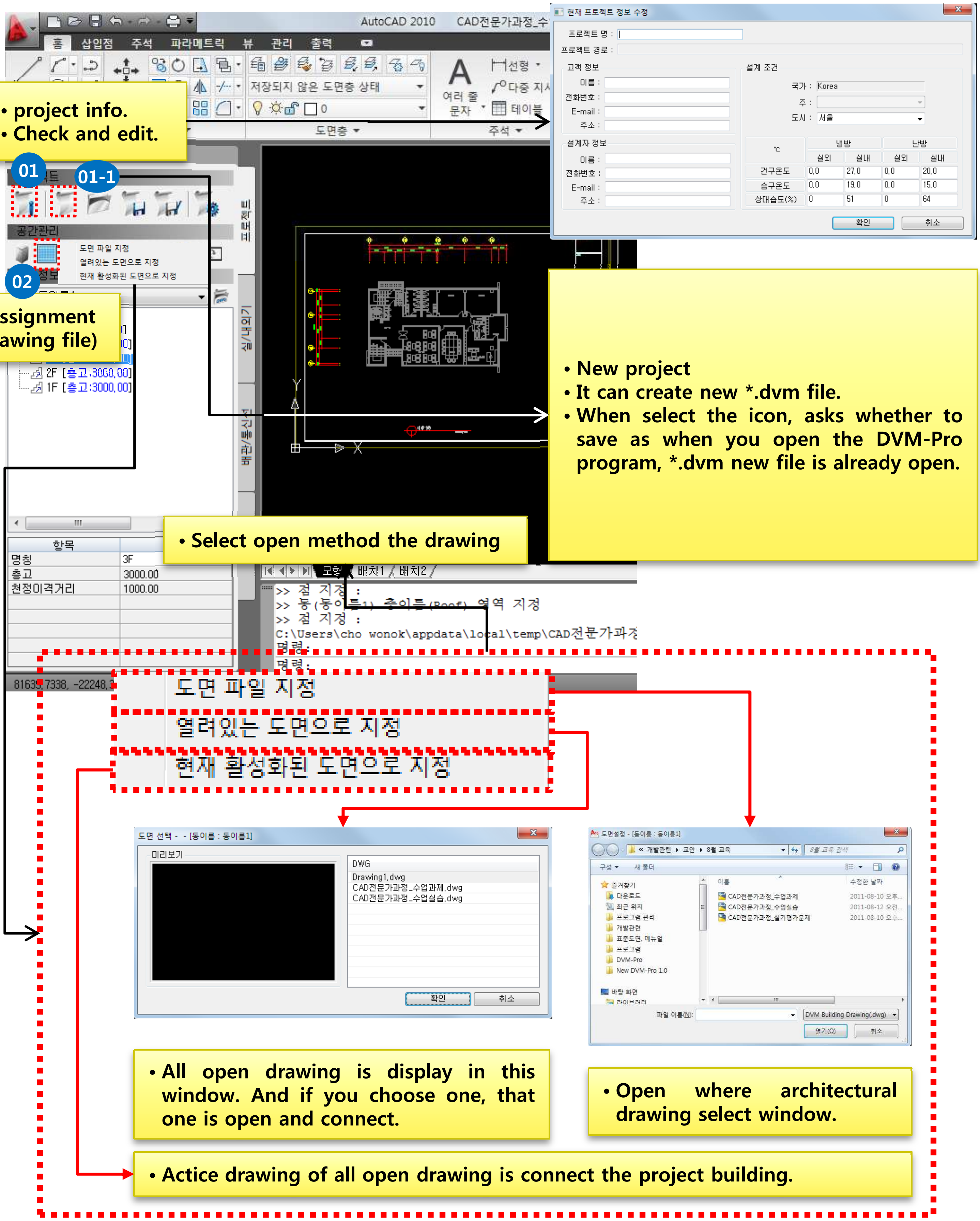
- **Report**
  - **Select the report list and insert the report in drawing.**

- **Pipe diagram**
  - **Insert the pipe diagram in order to the list of pipe diagram menu.**
    - **Draw layer of floor**
    - **Arrange indoor & outdoor unit**
    - **Draw vertical dewatering outlets**
    - **Draw drain pipe**
    - **Draw annotation of outdoor unit's pipe**
    - **Draw remarks**

- **Power/communication/controller diagram**
  - **Insert the power/communication/controller diagram in order to the list of diagram menu.**
    - **Draw layer of floor**
    - **Arrange indoor & outdoor unit**
    - **Draw wired remote controller manually**
    - **Draw indoor's power wiring**
    - **Draw outdoor's power wiring**
    - **draw outdoor's communication**
    - **Draw interface module**
    - **Draw unit of controller solution**
    - **Draw remarks**

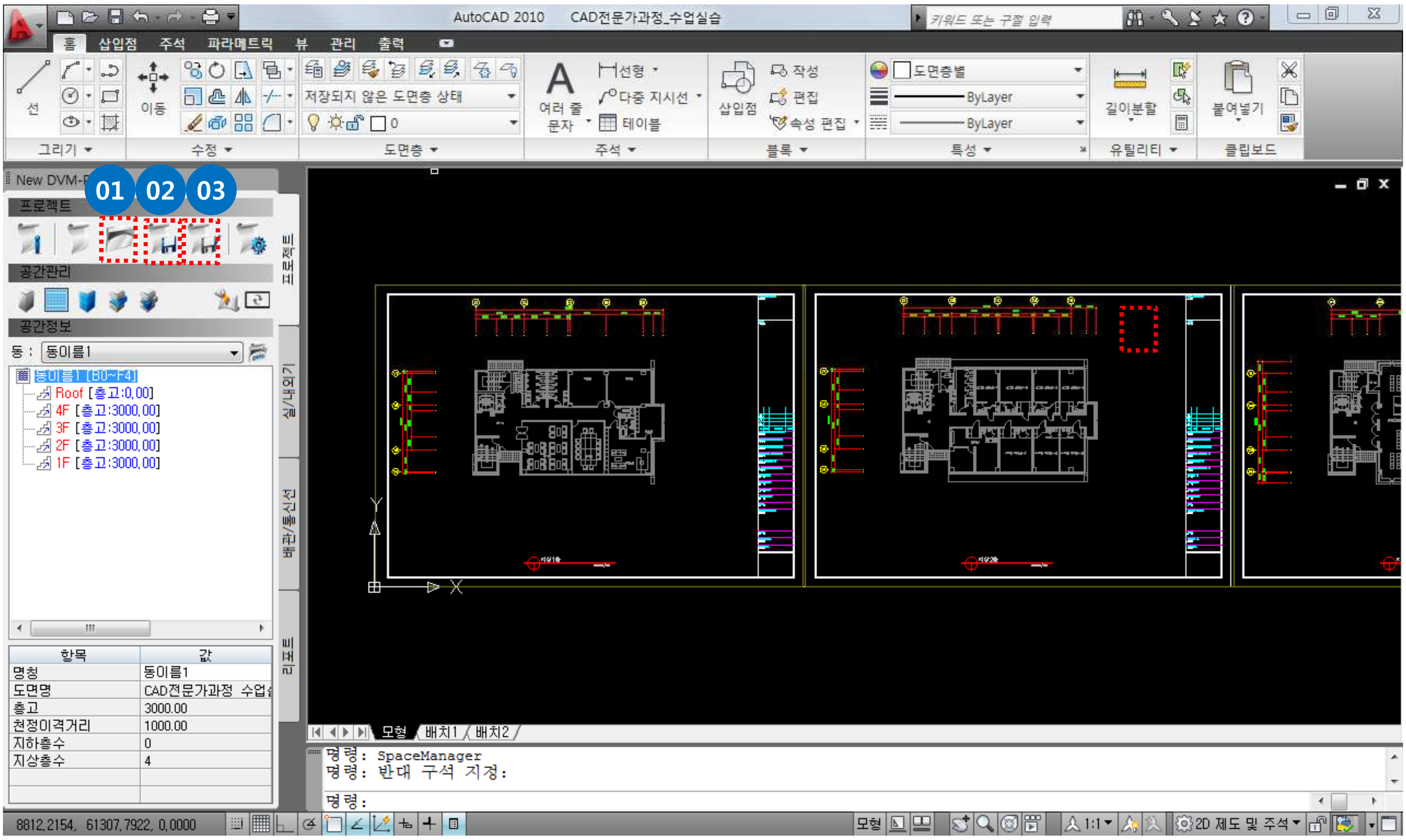
05 Step-by-step description of the design

(1) Project registration



05 Step-by-step description of the design

(1) Project register and save



01.Open the project

- when DVM and DWG file is saved same folder and you open the DVM file, DWG file open automatically. If it's saved no same folder and you open the DVM file, DWG file no open. So you should use Assignment(drawing file) menu to open the DWG file.

02. Save the project

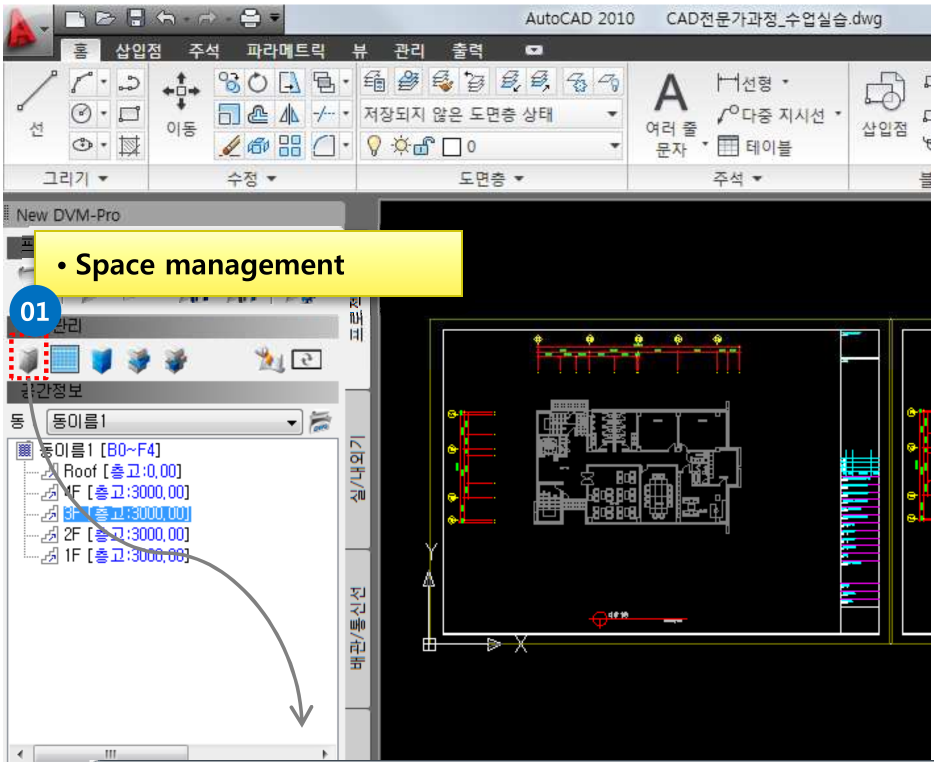
save the new project first time : when specify the path to the DVM file and save, DWG file save same path with DVM file from the original position.

*if you save in same folder which saved recently, open DWG file path is same save path so DWG file will be over written. Then original file may be missing.

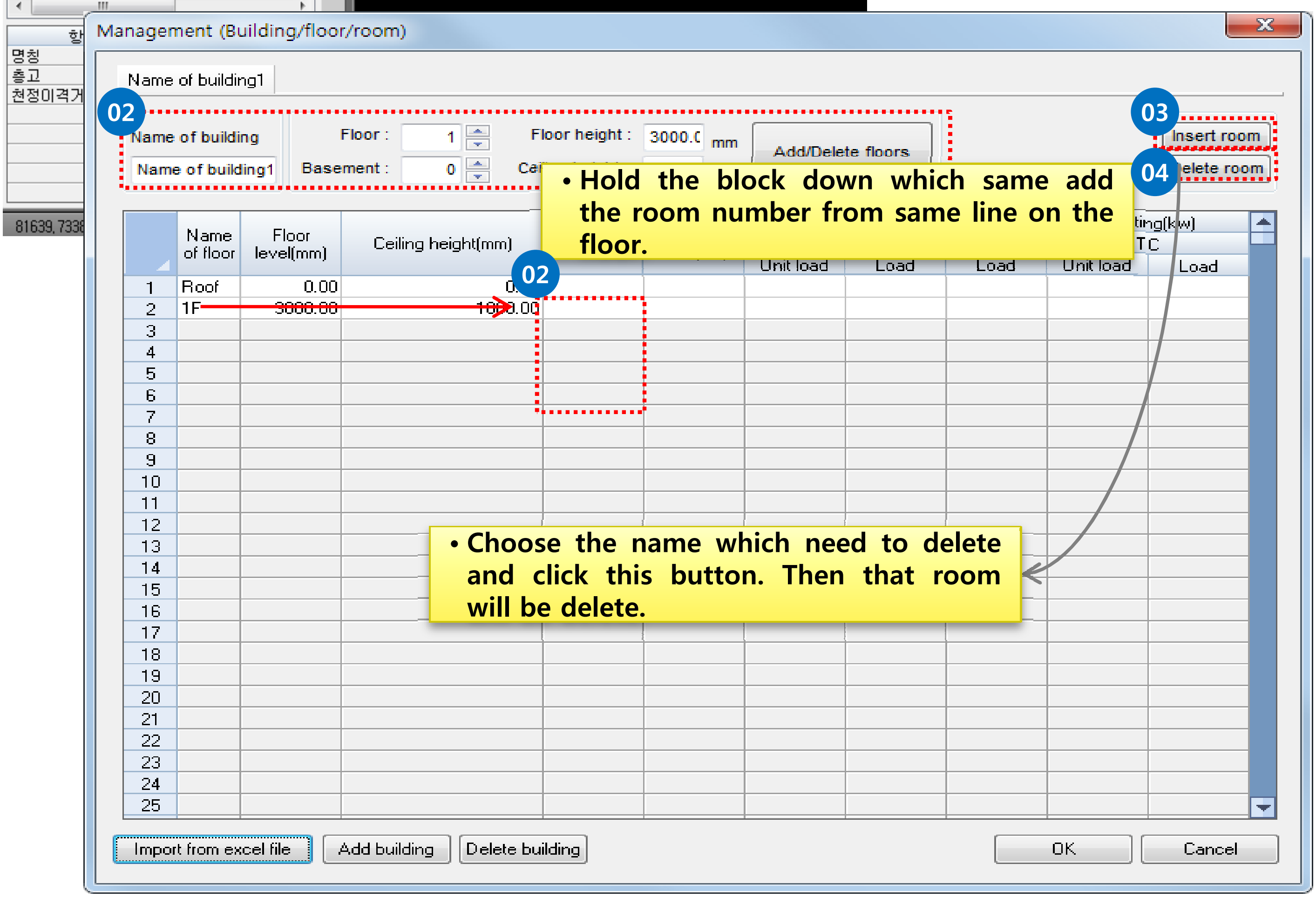
save after saved : it save same path and over written.

03.Save as project

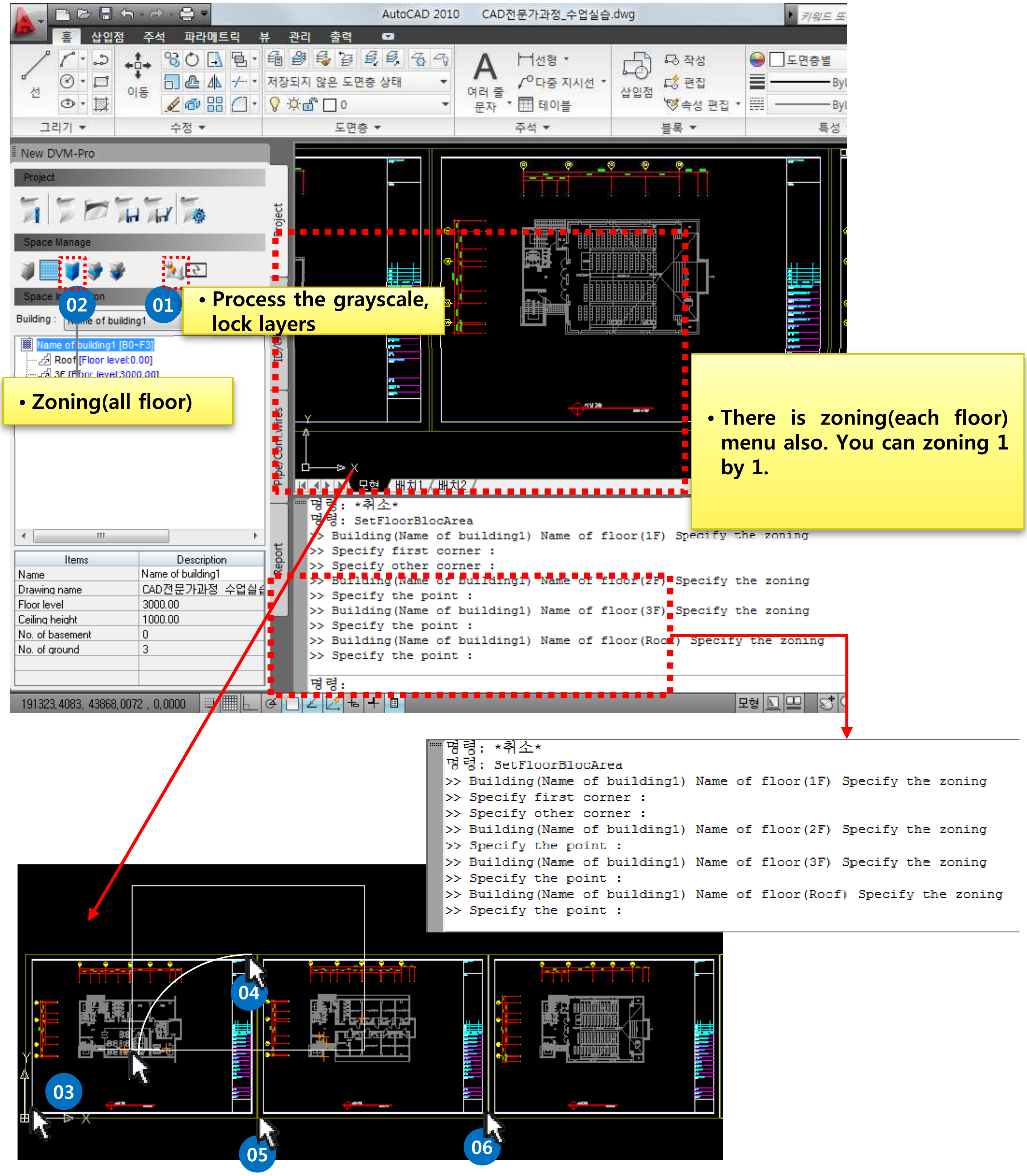
this menu is save again in other path.



- **Method of add room**
  - There is pre-and enter all of room information in management (room area, unit load per area etc) proceed and add the room when add the indoor. And if you want to delete the room, you should delete in only space management window.



(3) Process the grayscale, lock layers

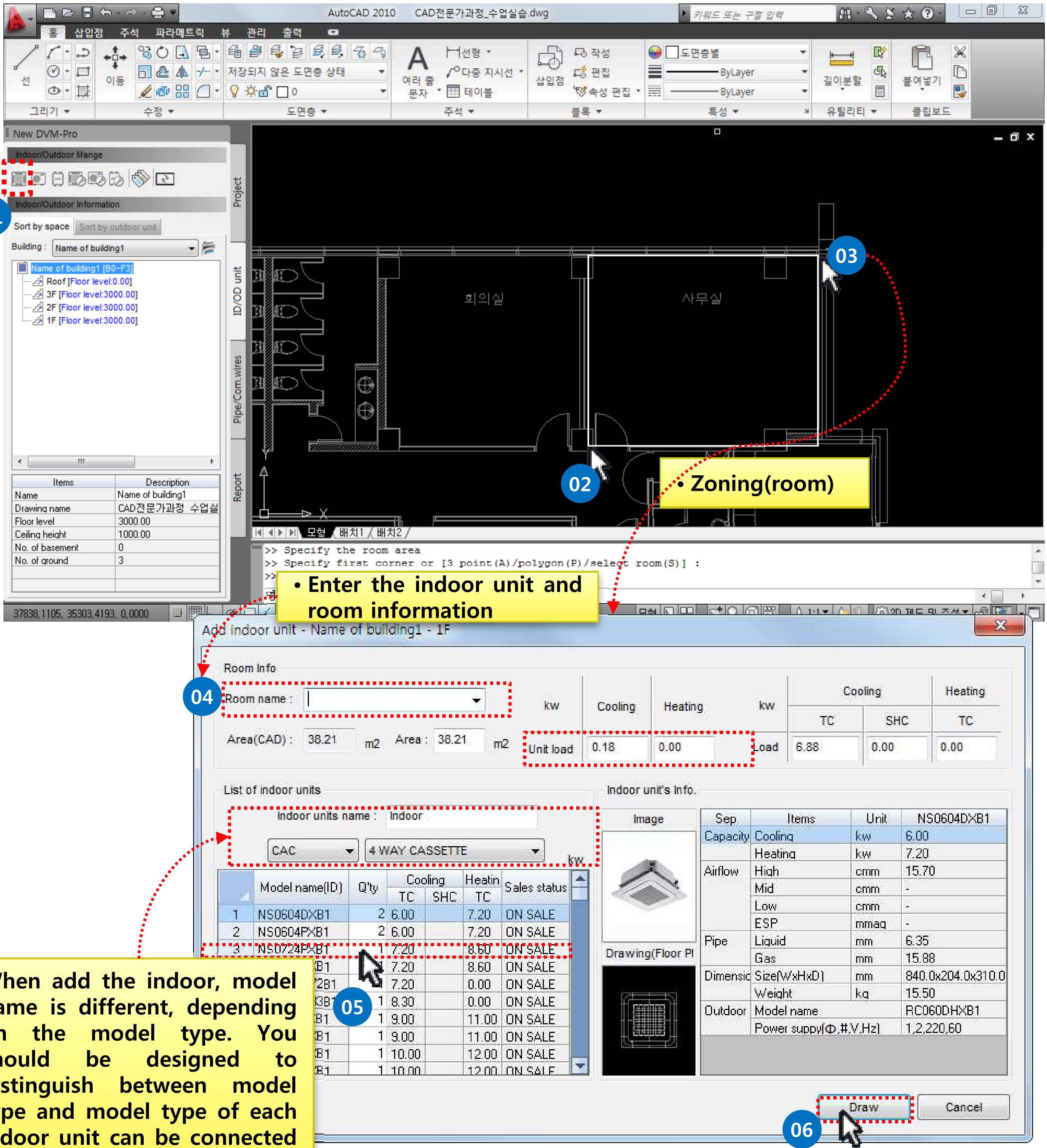


05 Step-by-step description of the design

(4) Add in/outdoor-1

Explain

When you add the indoor, you can add the room. In/outdoor information and room area is displayed interface left side and room information will be utilized by after reports.



When add the indoor, model name is different, depending on the model type. You should be designed to distinguish between model type and model type of each indoor unit can be connected only as outdoor.

- If Add the indoor unit in the same manner as above, room name connect the room area in drawing. Then indoor insert in that room area.

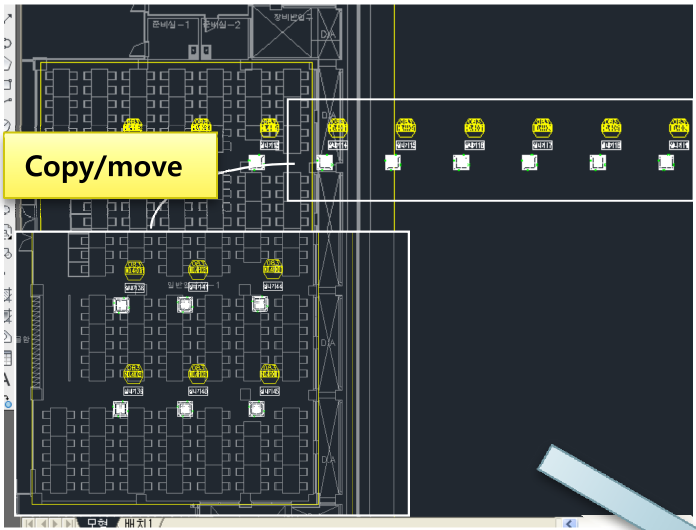
05 Step-by-step description of the design

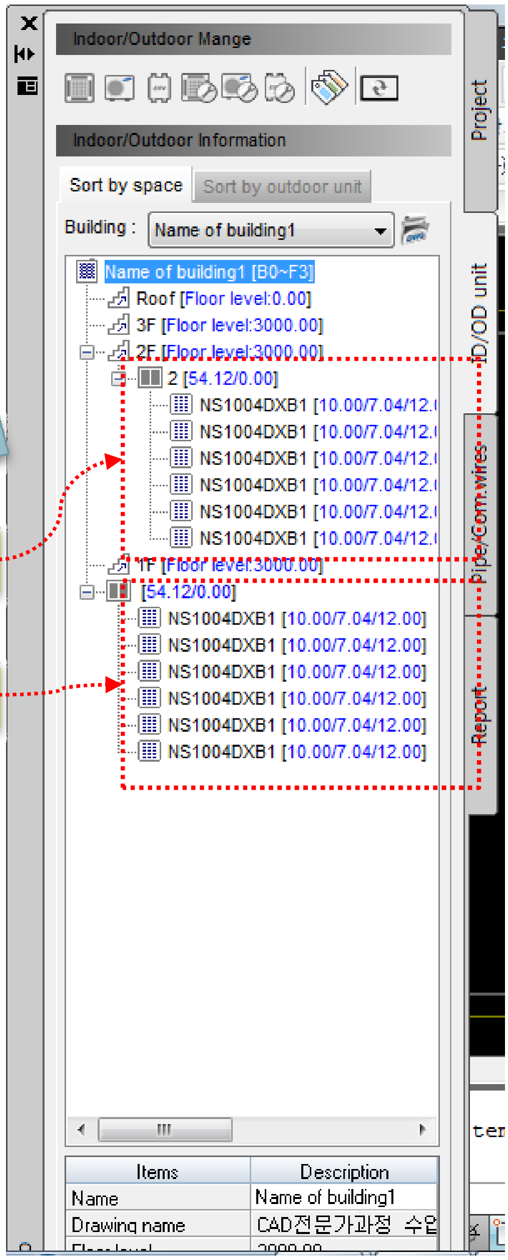
(4) Add in/outdoor-2

Explain

The placement of the indoor unit method is three method (1) center 2) user deployment 3) copy) indoor unit and room can copy and it displayed "in/outdoor information' window in real-time

When insert the block, Ctrl key is redirect and Tab key is point conversion.





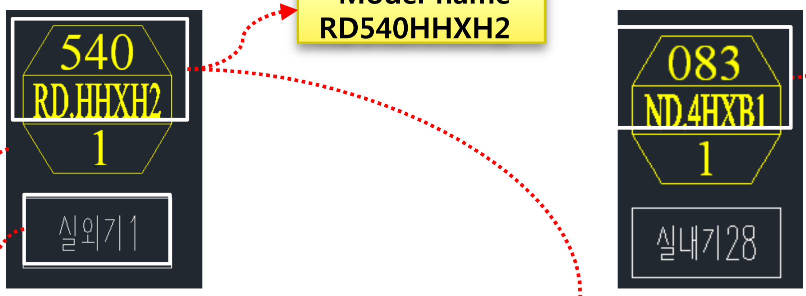
- **Copy the indoor unit and room on the second floor**

- **Add the indoor unit on the first floor**

- **Add the CAC and FJM indoor unit**
  - **CAC, FJM can be added in the same method.**
  - **Wall mounted, stand type are insert 1 by 1. when insert the wall mounted indoor, attaches to the wall.**
  - **1way cassette indoor insert 1 by 1. and after enter the distance from the wall, attaches to the wall.**

Explain

This is explain of name block.



• Model name
RD540HHXH2

• Model name
ND0834HXB1

• Zone information
This number mean connection of in/outdoor.
Connection indoor and outdoor are same number. So you can see the connection.

The first line is capacity,
The second line is model name to the rest.

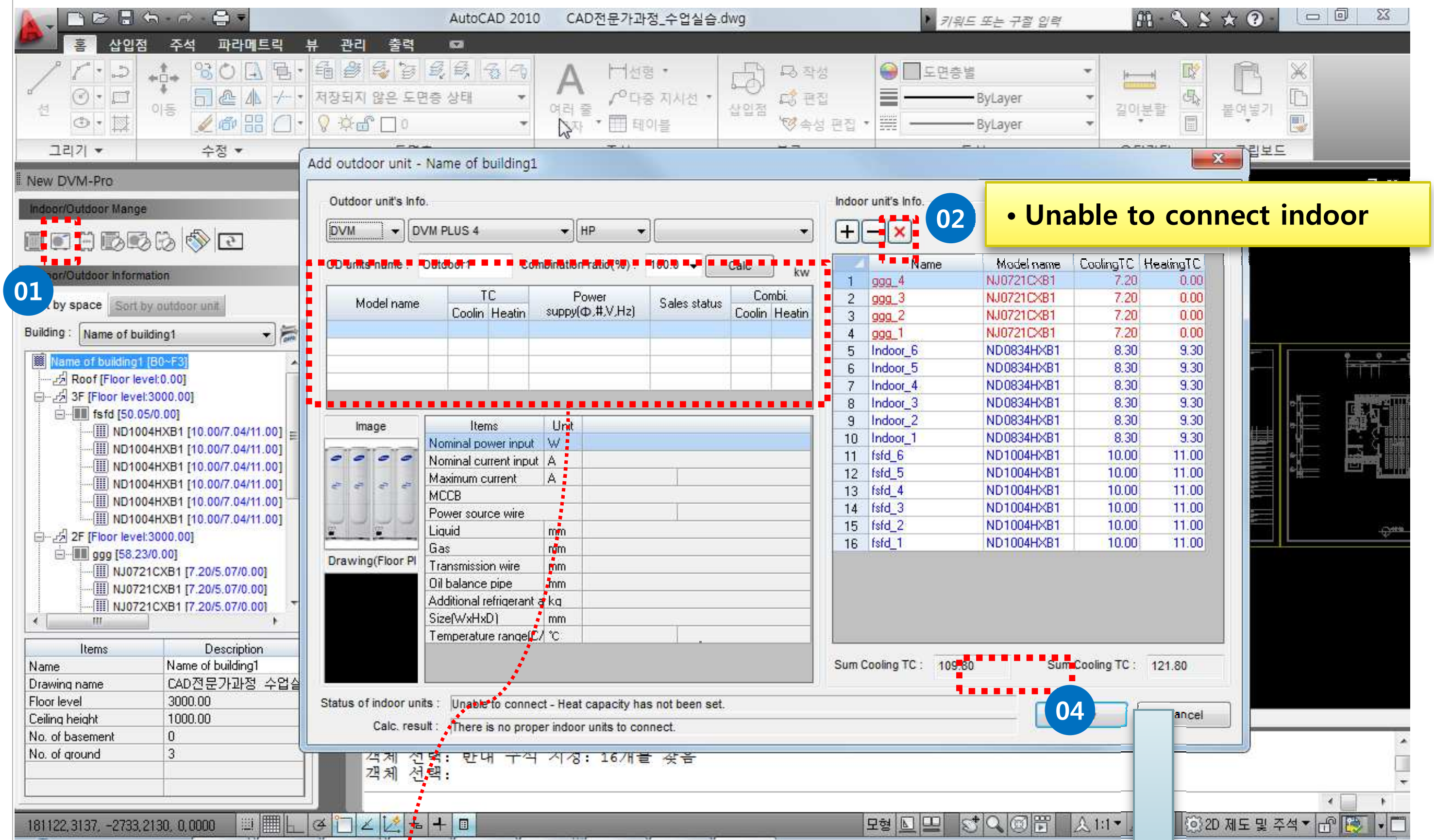
In/outdoor name.

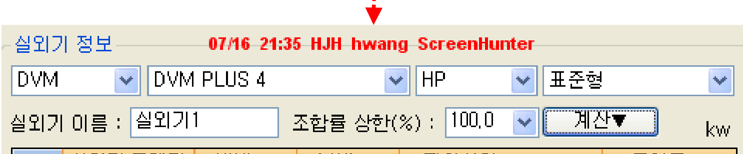
05 Step-by-step description of the design

(5) Connect in/outdoor-1

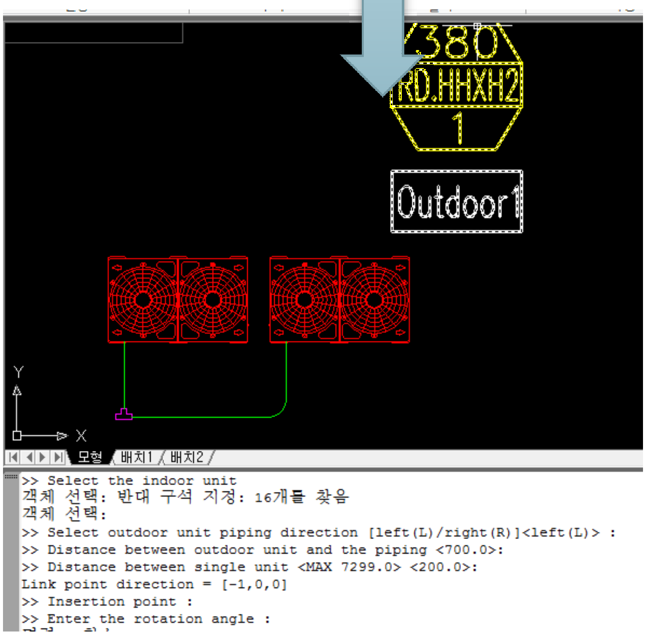
Explain

If you can continue to draw level, all of indoor connect the outdoor. And you can draw the outdoor after select in 'in/out connect' window.





	실외기 모델명	냉방TC	난방TC	전원사양(Φ,#,V,Hz)	조합률(%)
1	RD540HHXH2S	156.60	176.10	3,4,380,60	95.10
2	RD580HHXH2S	168.20	180.80	3,4,380,60	
3	RD560HHXH2S	162.40	182.60	3,4,380,60	
4	RD600HHXH2S	174.00	195.60	3,4,380,60	85.60



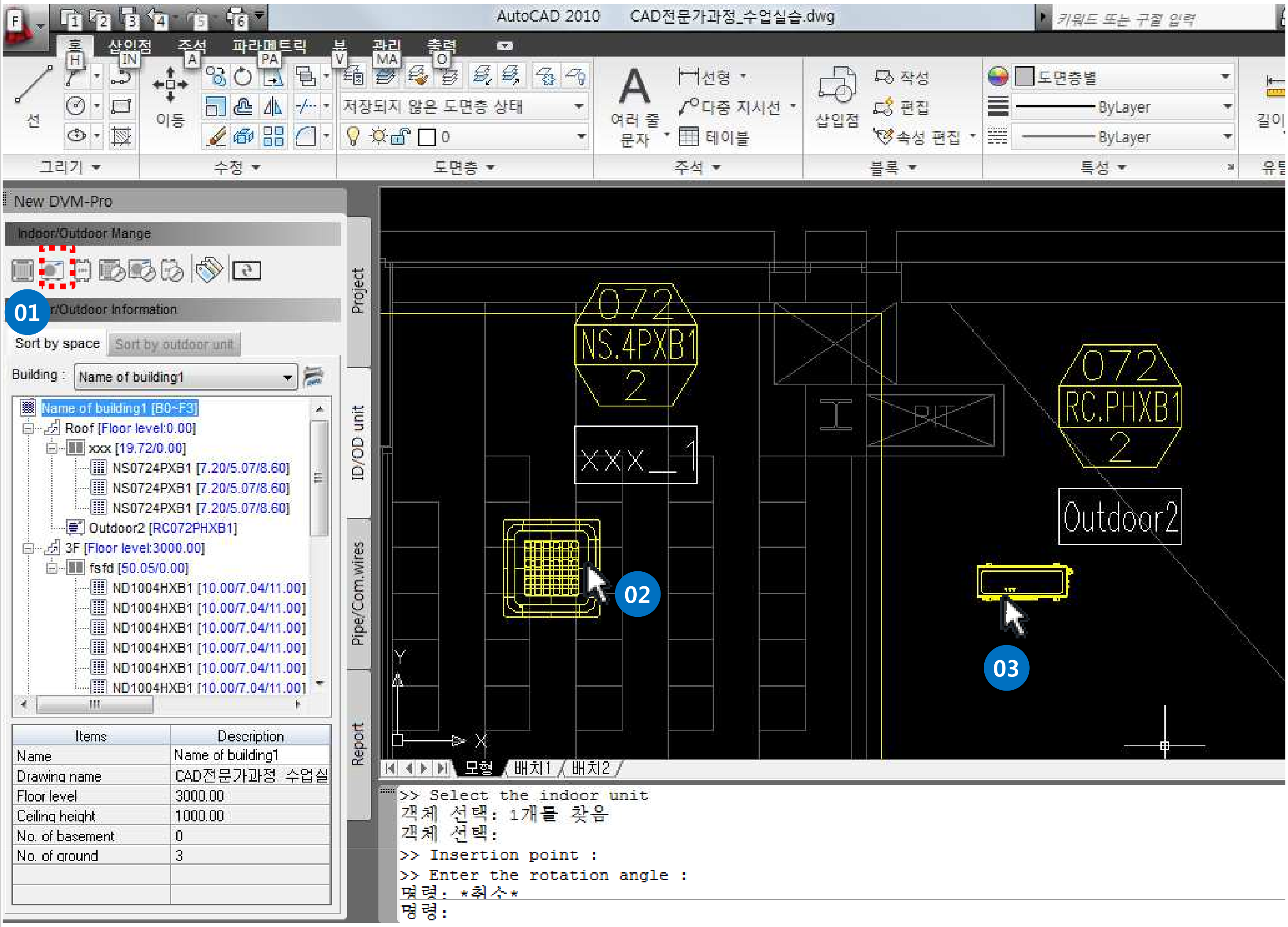
• **Connect the FJM in/outdoor**
– Connect the same method.

05 Step-by-step description of the design

(5) Connect in/outdoor-2

Explain

If you select the in/outdoor which will connect, In/outdoor connection of CAC is connect simply.

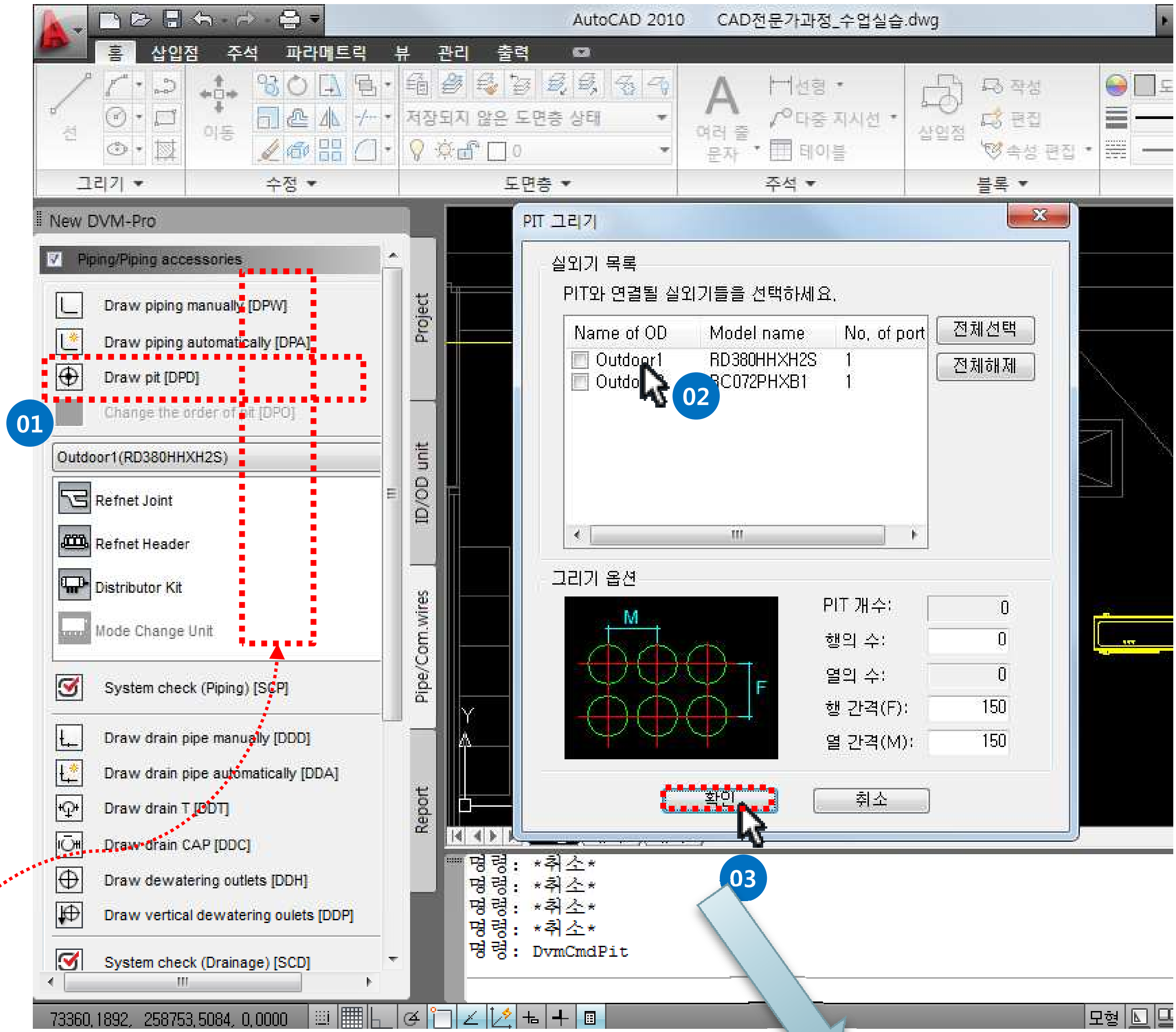


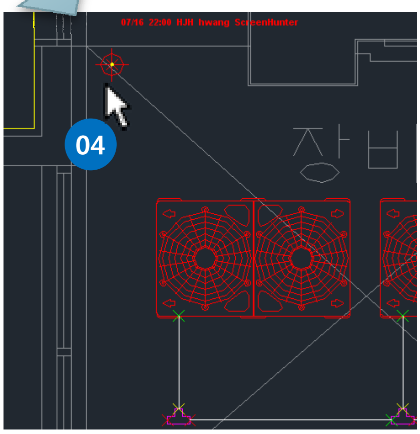
05 Step-by-step description of the design

(6) Draw pit

Explain

After setting the number of columns and line Pit, click on the location of the drawing. Pit draw by outdoor and if you put the mouse near the pit, you can see a connection outdoor image when you draw the piping.





- **Speed command : you can execute the menu without click. When you enter this command, menu execute.**

- **Copy the pit where other floors.**

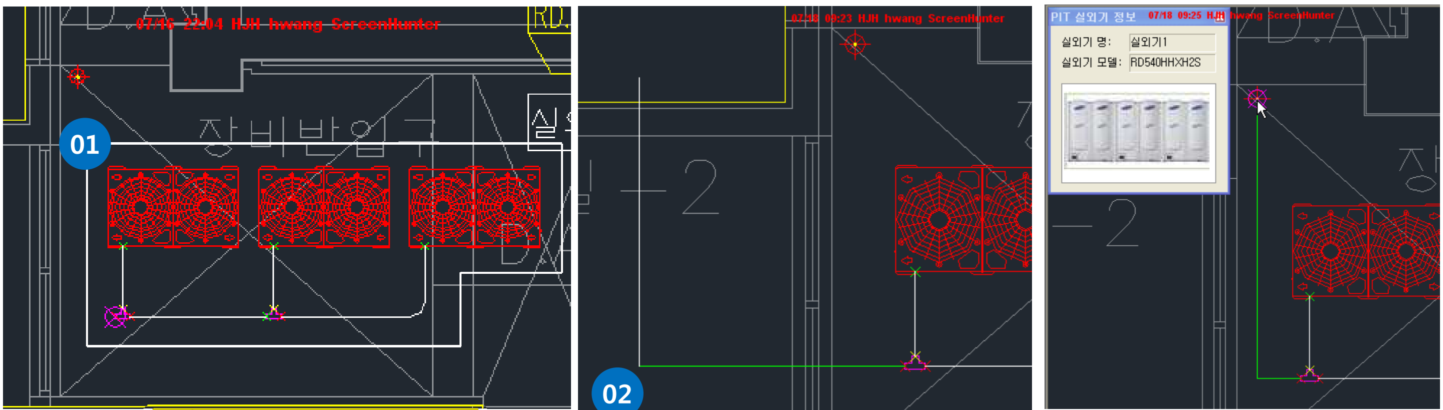
05 Step-by-step description of the design

(7) Draw piping-1

Explain

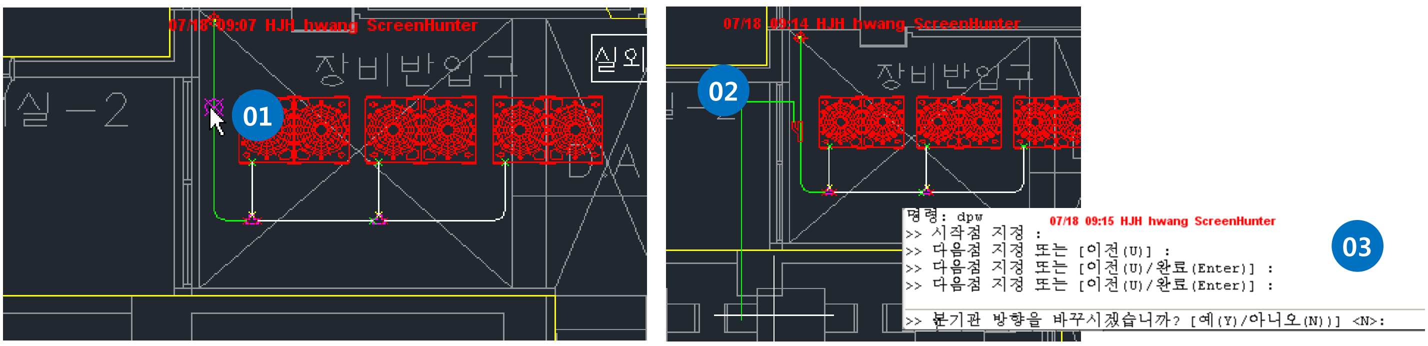
This is connection the piping. Recognize the connection point automatically without click the direct connection point.

- **When you enter this command, menu execute.**
- **All of the unit have connection point when mouse comes close. If click near piping, it connect this point automatically. Also, pipe accessories are same.**
- **if you put the mouse near the pit, you can see a connection outdoor image, outdoor name, model name when you draw the piping.**



If you put the mouse near the outdoor unit, you can see connection which look like 'x'.

- **When you draw distribution pipe, drawing like behind capture and Enter. Than you can choose direction and you will see the refnet joint direction which before choose.**



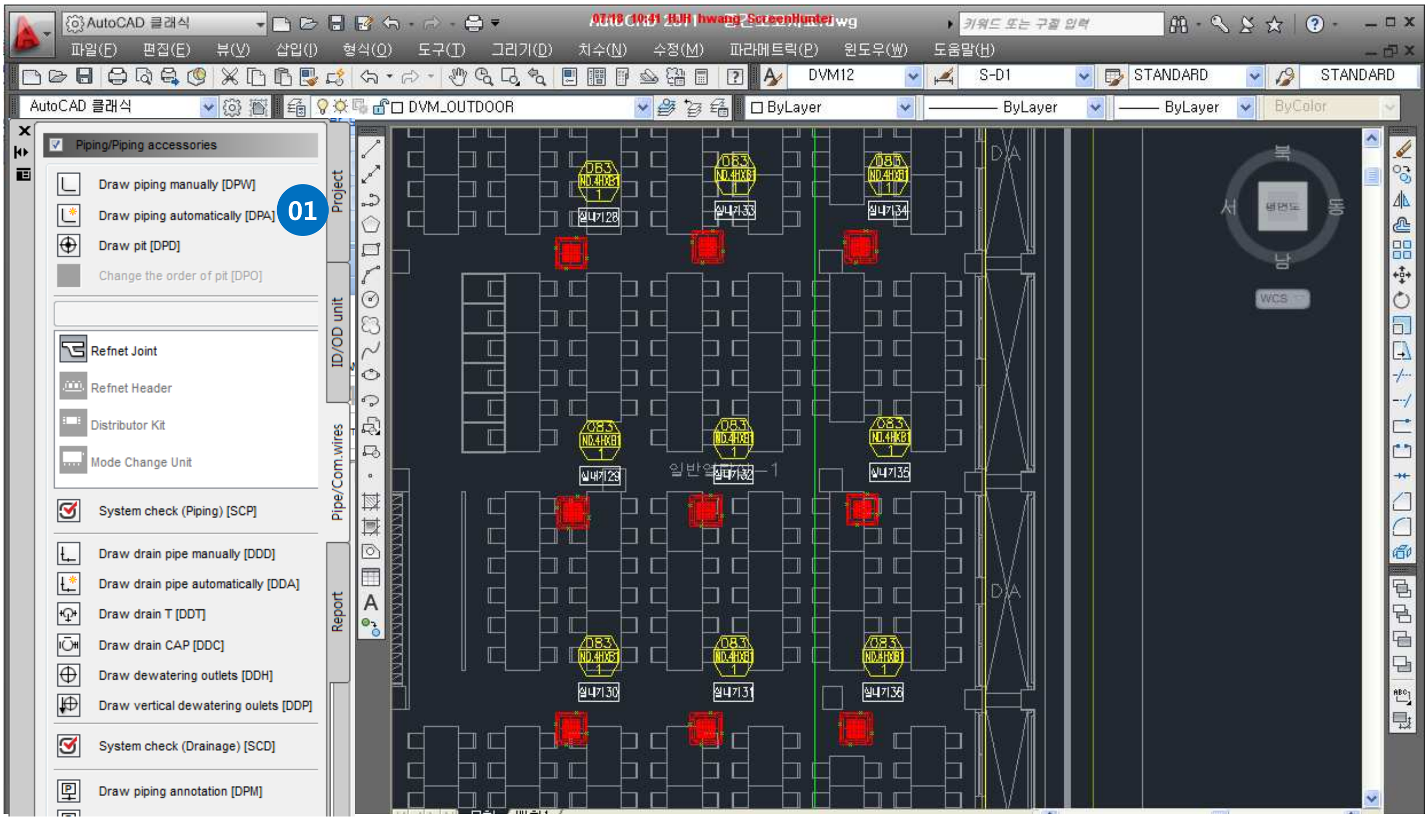
05 Step-by-step description of the design

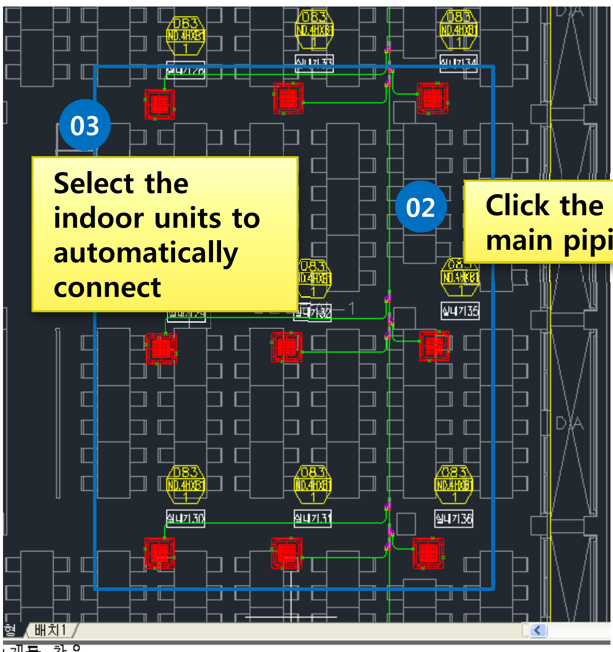
(7) Draw piping-2

Explain

It's explain to draw the piping. Auto/manual pipe is available. You can various forms of draw the pipe.

You can draw through draw piping manually. It have draw piping automatically menu. You can connect indoor to main piping.





03 **Select the indoor units to automatically connect**

02 **Click the main piping**

- **When you enter this command, menu execute.**
- **When you draw distribution pipe, drawing like behind capture and Enter. Than you can choose direction and you will see the refnet joint direction which before choose.**

04 **After click the Enter key, select the direction of refnet joint.**

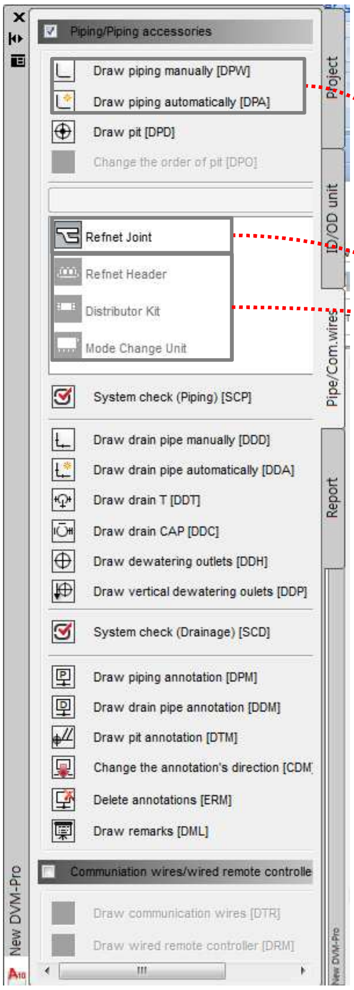
05 **Connect the last indoor / Select the pipe leaving**

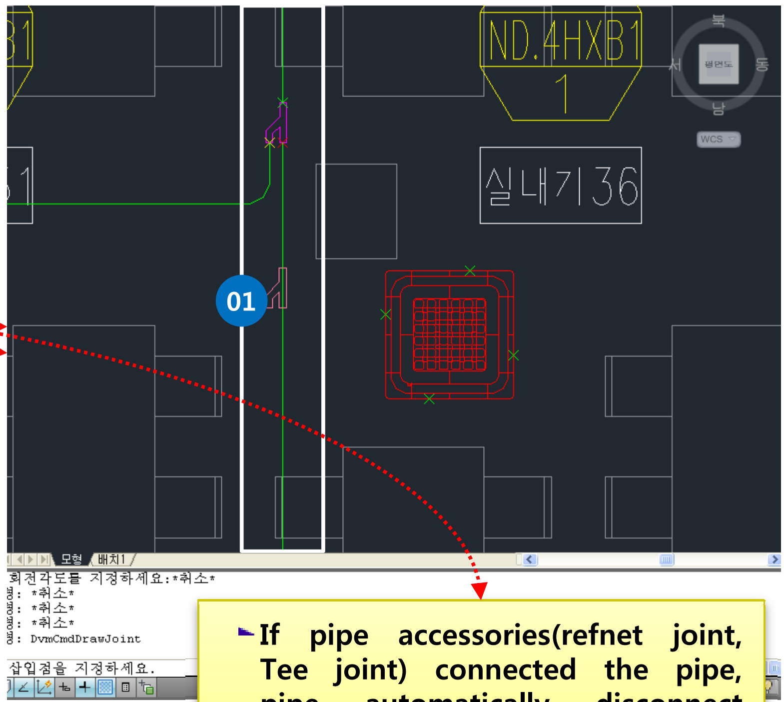
05 Step-by-step description of the design

(7) Draw piping-3

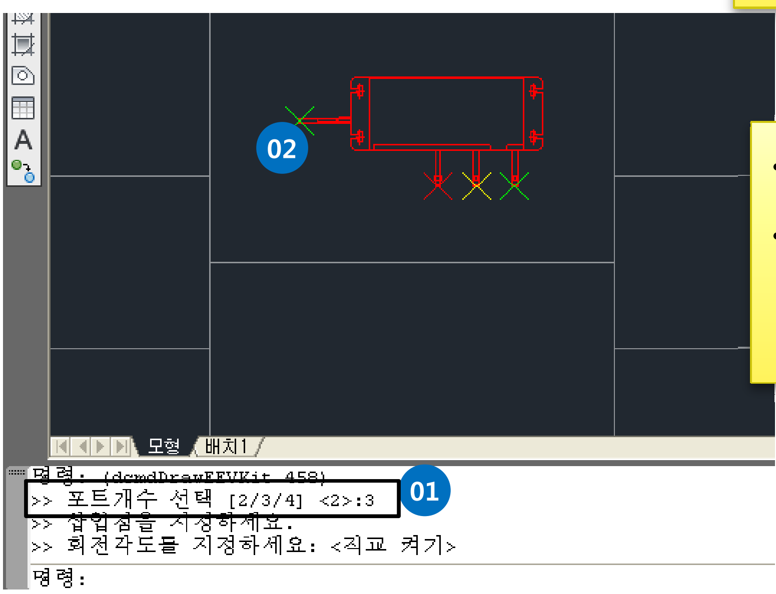
Explain

It's explain to draw the piping. Auto/manual pipe is available. You can various forms of draw the pipe.
Also you can draw piping accessories.
When insert the block, Ctrl key is redirect and Tab key is point conversion.





- If pipe accessories(refnet joint, Tee joint) connected the pipe, pipe automatically disconnect where the accessories enters. And you can choose direction of refnet joint through use Ctrl
- If you delete the pipe accessories which connect the pipe, pipe connect again.
- Tee and cap draw the same method.



- Header, MCU draw the same method.
- When draw the piping from piping accessories, if you don't want to go to a different point, click the ctrl key.

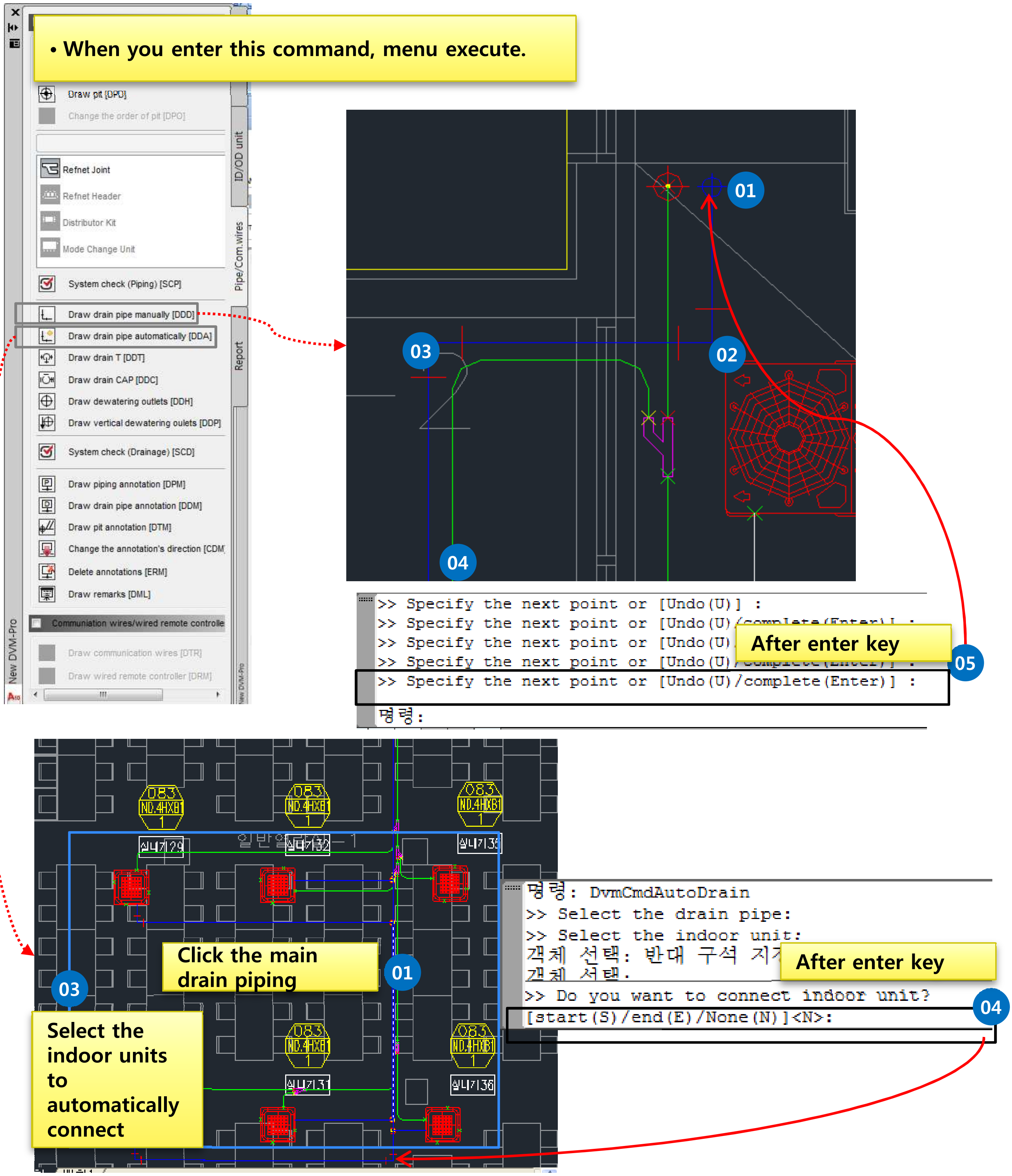
05 Step-by-step description of the design

(7) Draw piping-4

Explain

It's explain to draw the drain piping, Auto/manual pipe is available. You can various forms of draw the pipe.

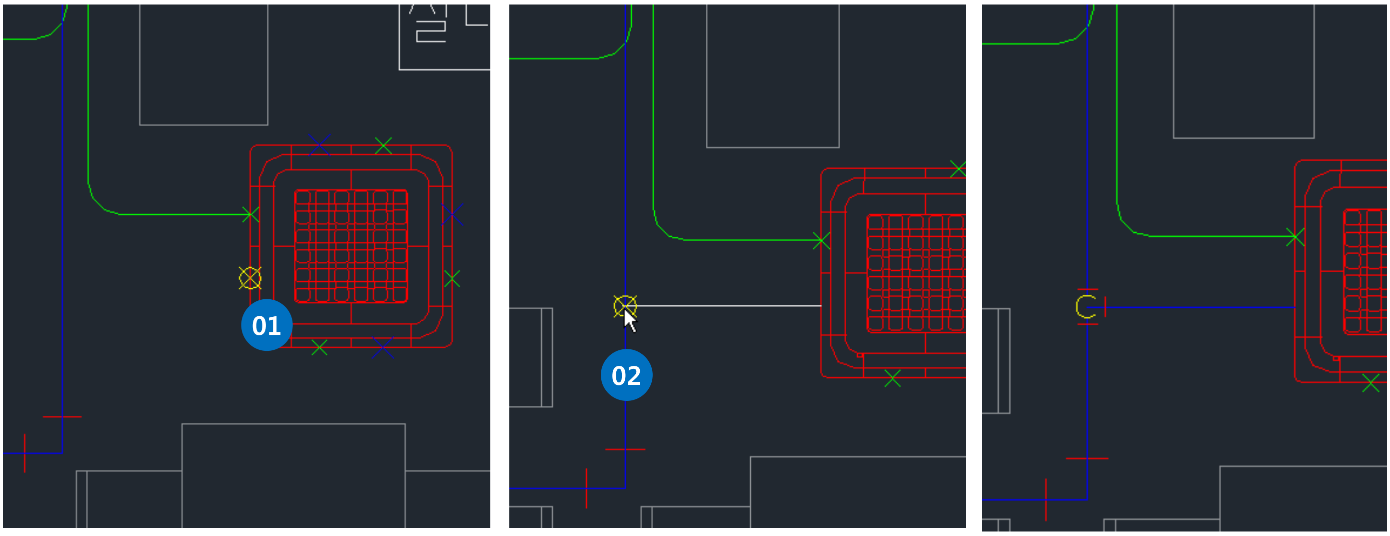
It have draw drain piping, draw Tee, draw cap. And It have draw drain piping automatically menu. You can connect indoor to main drain piping.

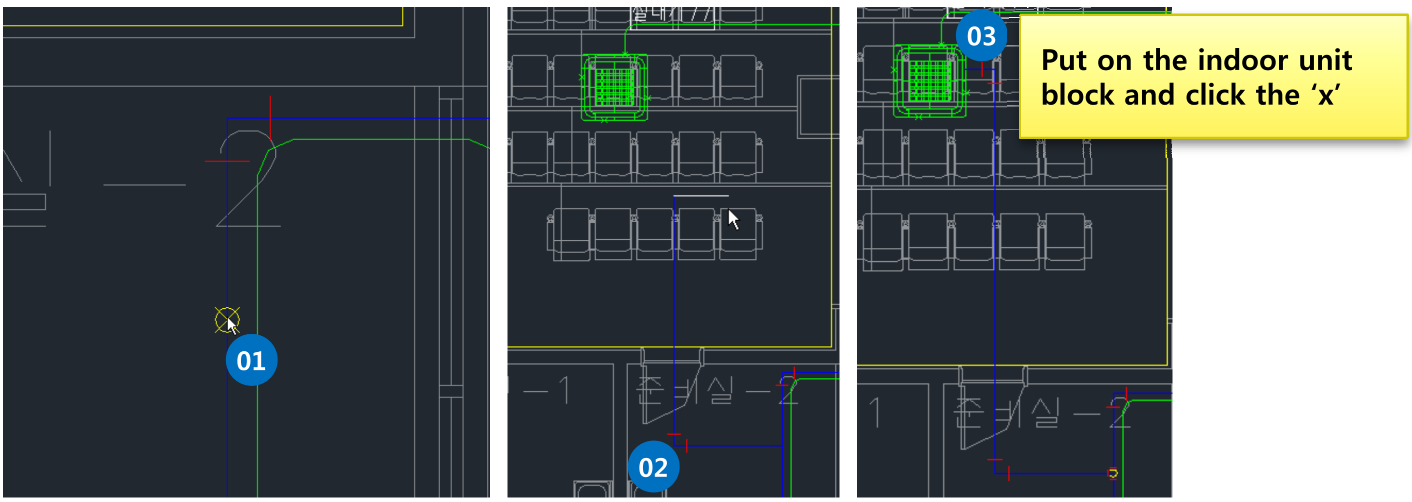


Explain

It's explain to draw the drain piping, Auto/manual pipe is available. You can various forms of draw the pipe.

- **If you delete the Tee and drain which connected the Tee, returns to original state of the drain piping. And Elbow is delete that include the deleted drain piping.**
- **If Tee joint connected the pipe, pipe automatically disconnect where the accessories enters.**
- **If you put the mouse near the unit, you can see connection which look like 'x'. When click the 'x', drain piping will appear to block and the.**
- **When draw the drain piping from drain piping, if drain piping draw from drain piping, Tee draw automatically.**



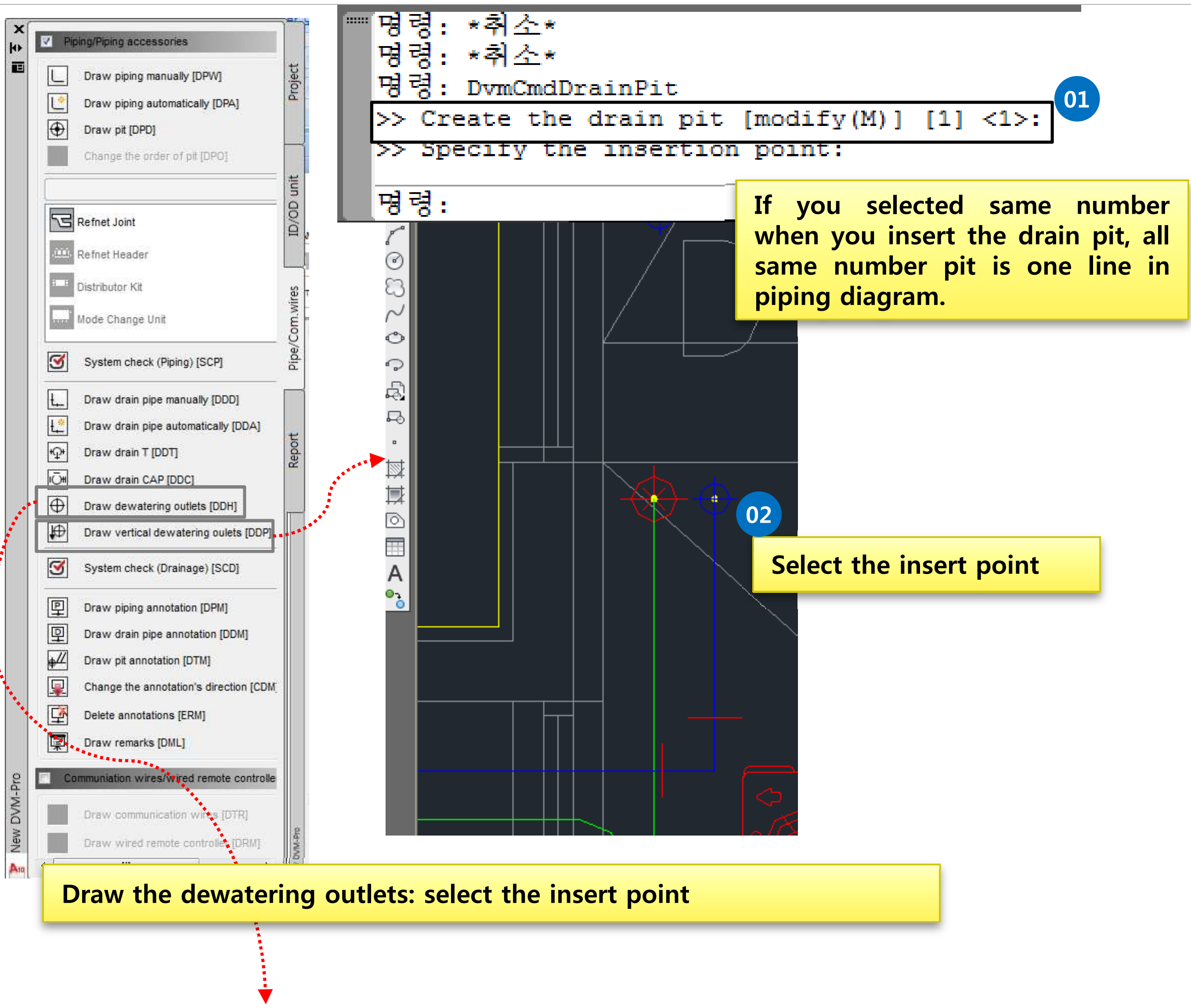


05 Step-by-step description of the design

(7) Draw piping-6

Explain

If Draw dewatering outlets and draw vertical dewatering outlets. draw vertical dewatering outlet's number is same, same number is same location of the other floor. Than this information used diagram in report. Tab.

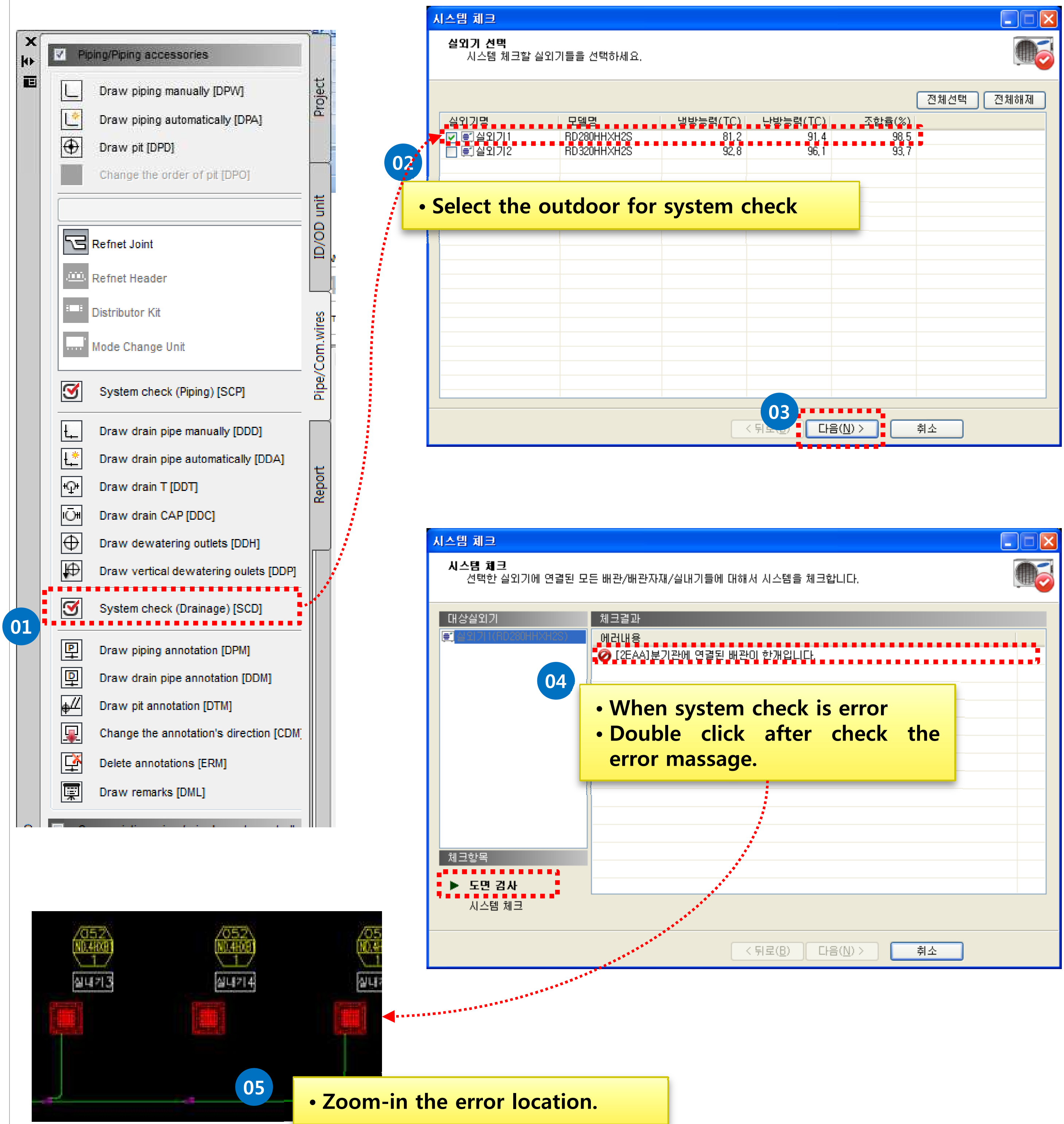


05 Step-by-step description of the design

(8) System check-1

Explain

Refrigerant pipe connection , pipe length and pipe level difference etc is checked. And When system check is error, modify the part of guided in system check and check again. Drain pipe connection is checked. the end of the system check, pipe diameter is placed automatically.

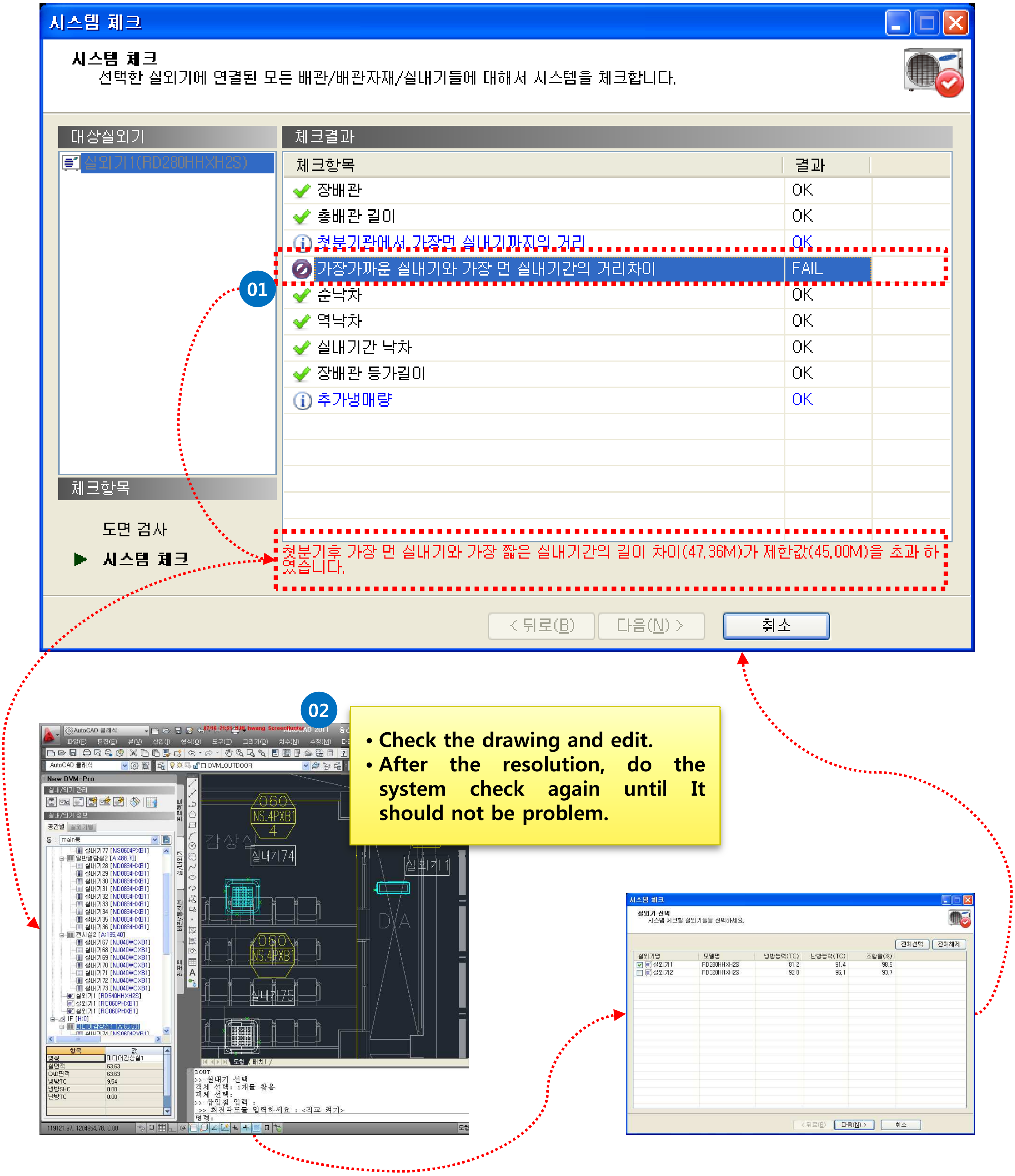


05 Step-by-step description of the design

(8) System check-2

Explain

Pass the drawing check, test a variety of check list. If it have a problem, display part of the problem and explain the cause of the problem. Also, finish the check, pipe diameter is placed automatically.



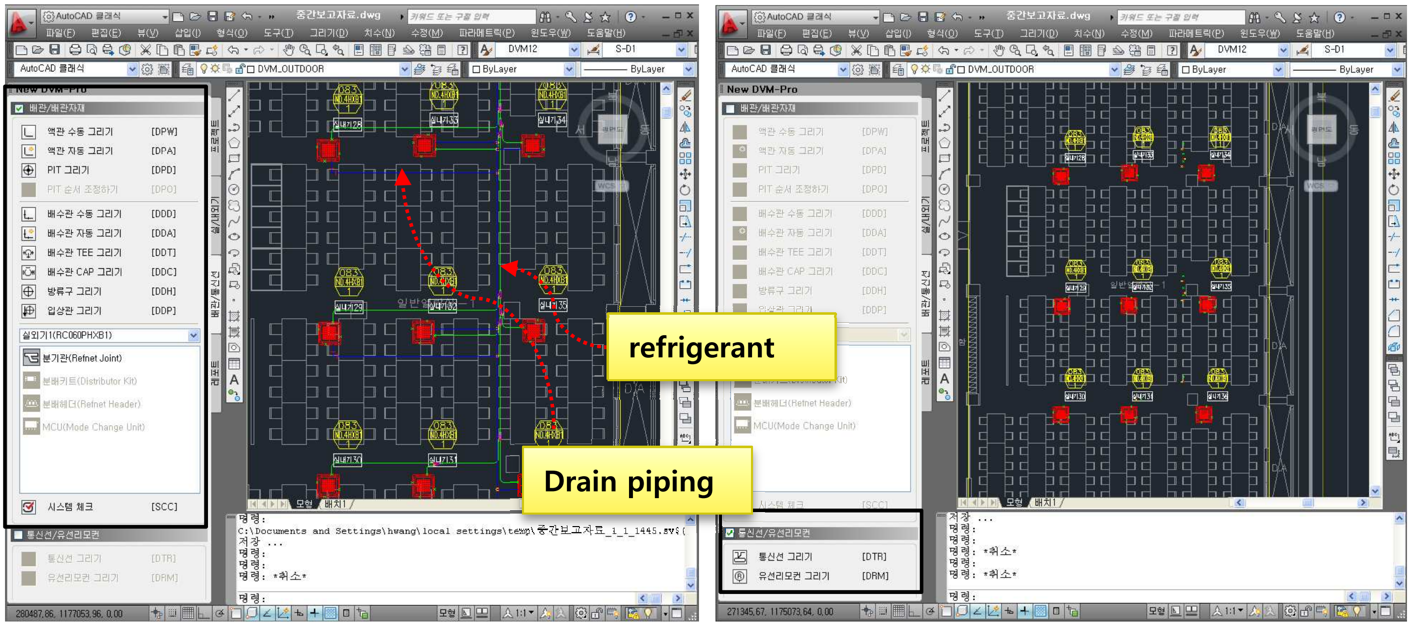
05 Step-by-step description of the design

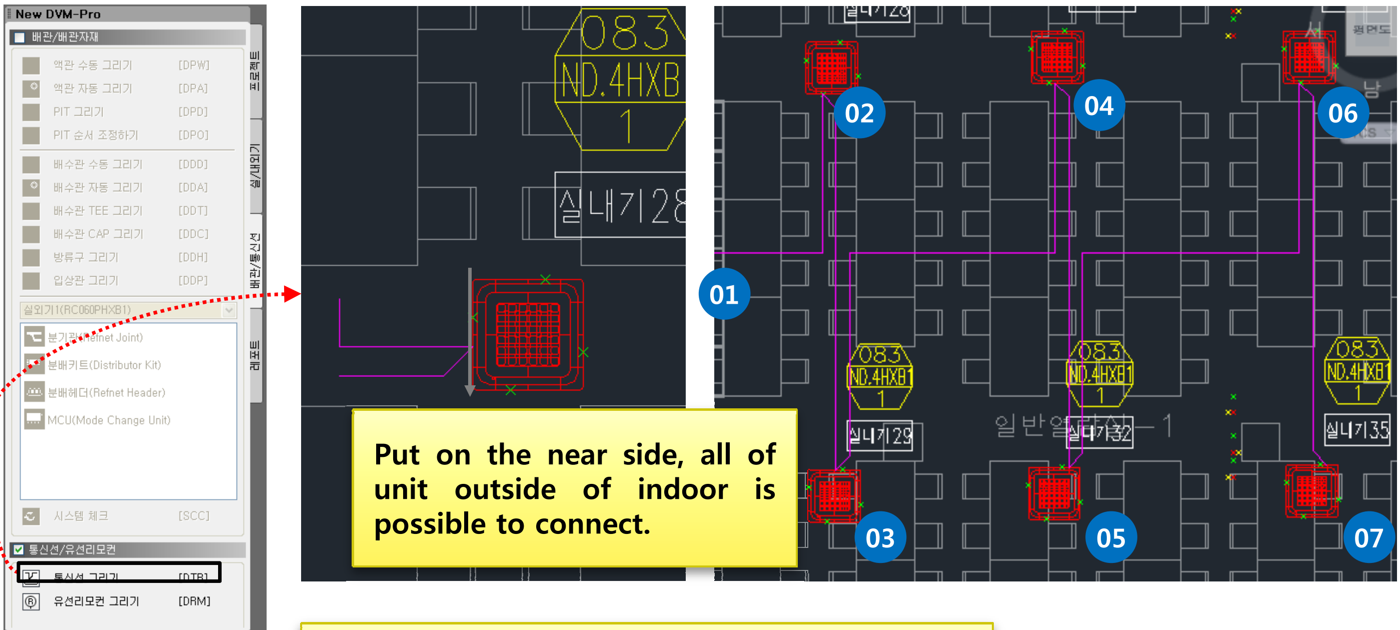
(9) Controller wire-1

Explain

Select the communication wires/wired remote controller, draw the communication wires/wired remote controller.

- **When you enter this command, menu execute.**
- **Select check box the piping/piping accessories or communication wires/remote controller, selection layer is active. So, you can distinction .**





- **Click the connection indoor in order and then when you enter, complet the connection.**

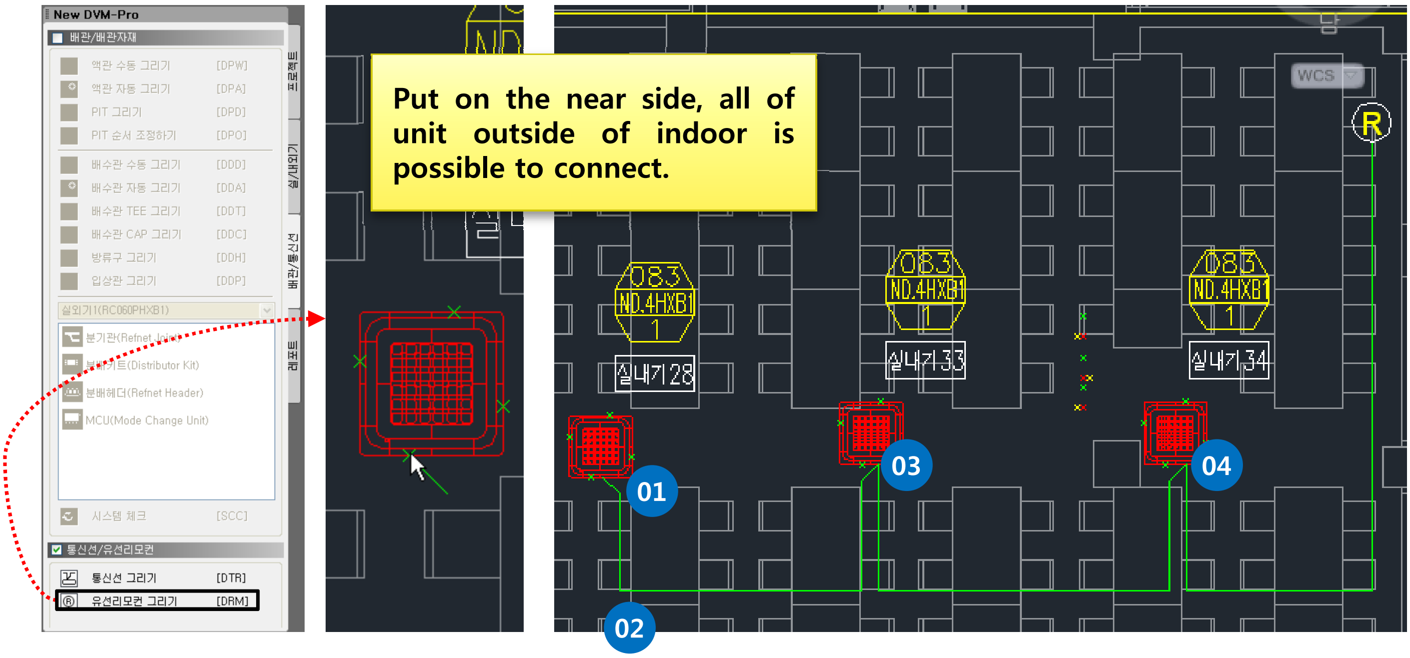
05 Step-by-step description of the design

(9) Controller wire-2

Explain

Select the communication wires/wired remote controller, draw the communication wires/wired remote controller.

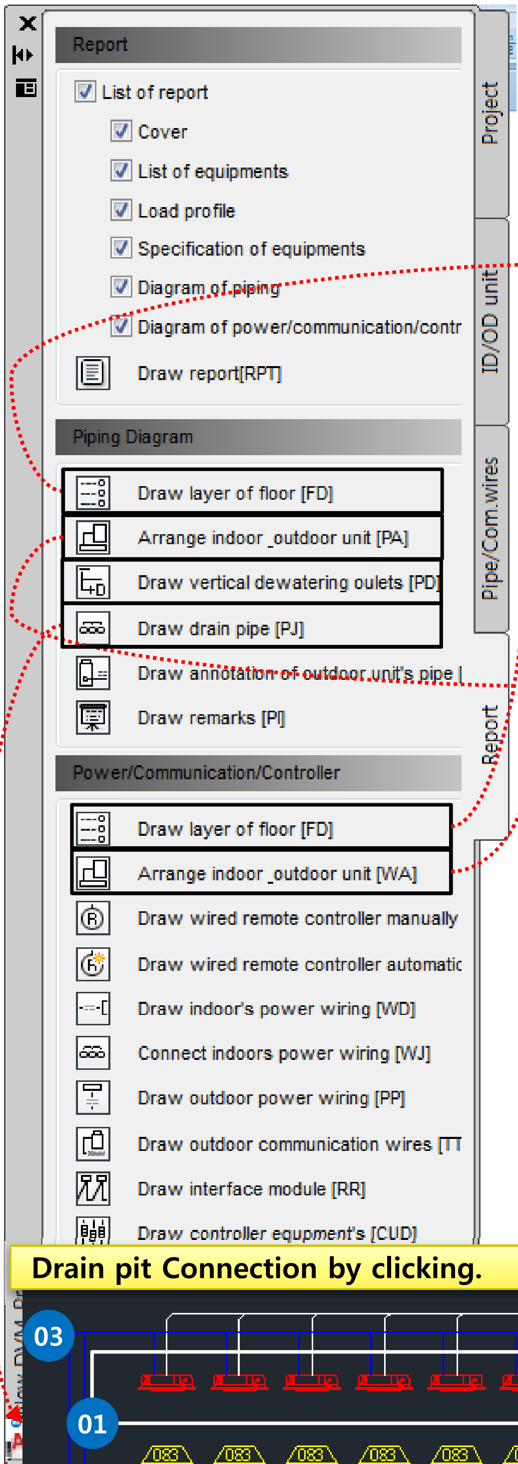
- **When you enter this command, menu execute.**
- **Select check box the piping/piping accessories or communication wires/remote controller, selection layer is active. So, you can distinction .**
- **Click the connection indoor in order and then when you enter, complet the connection.**

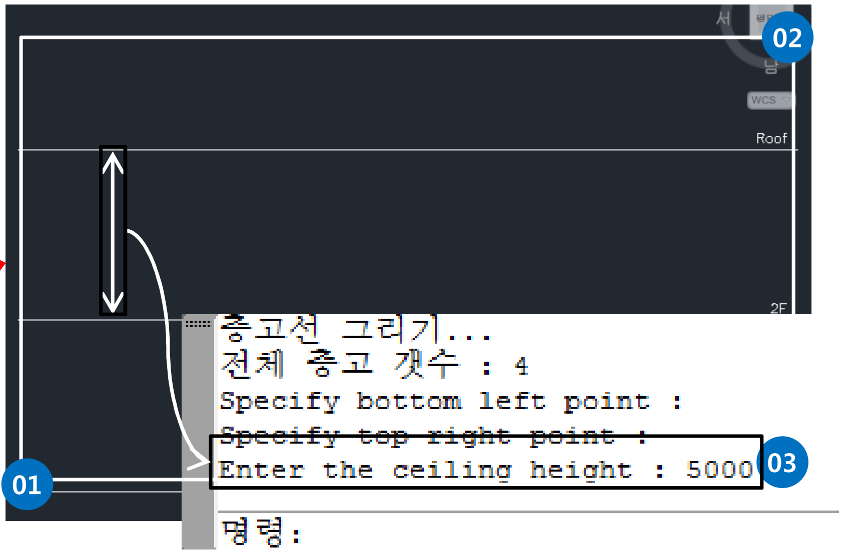


05 Step-by-step description of the design (10) Piping remarks & Piping Diagram-1

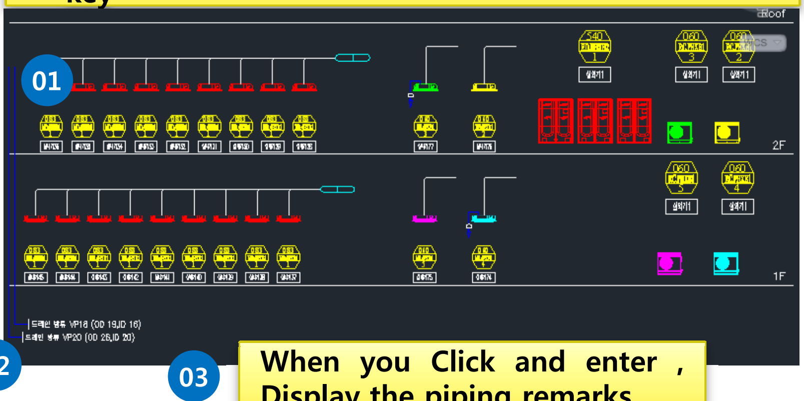
Explain

Design the piping remarks and insert to drawing.
Click the piping diagram list in order. then Design the piping diagram.



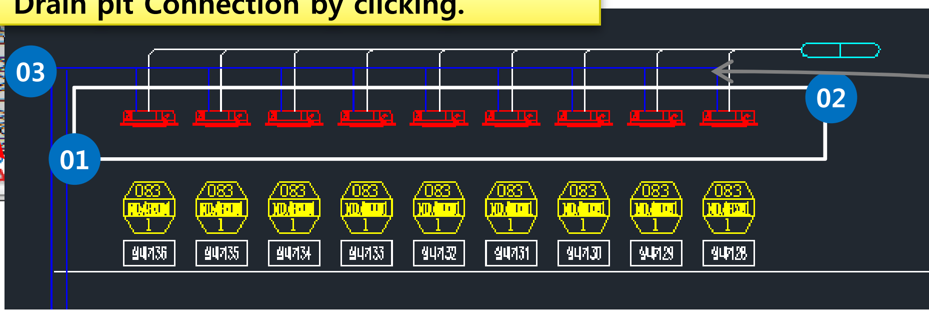


- Repeat the order of outdoor and indoor which include the outdoor. You can insert this block to click the rocation.
- If dewatering outlets is not connect the drain piping, ddwatering outlets is displayed with block.
- You can change the direction of piping to use Ctrl key



When you Click and enter , Display the piping remarks.

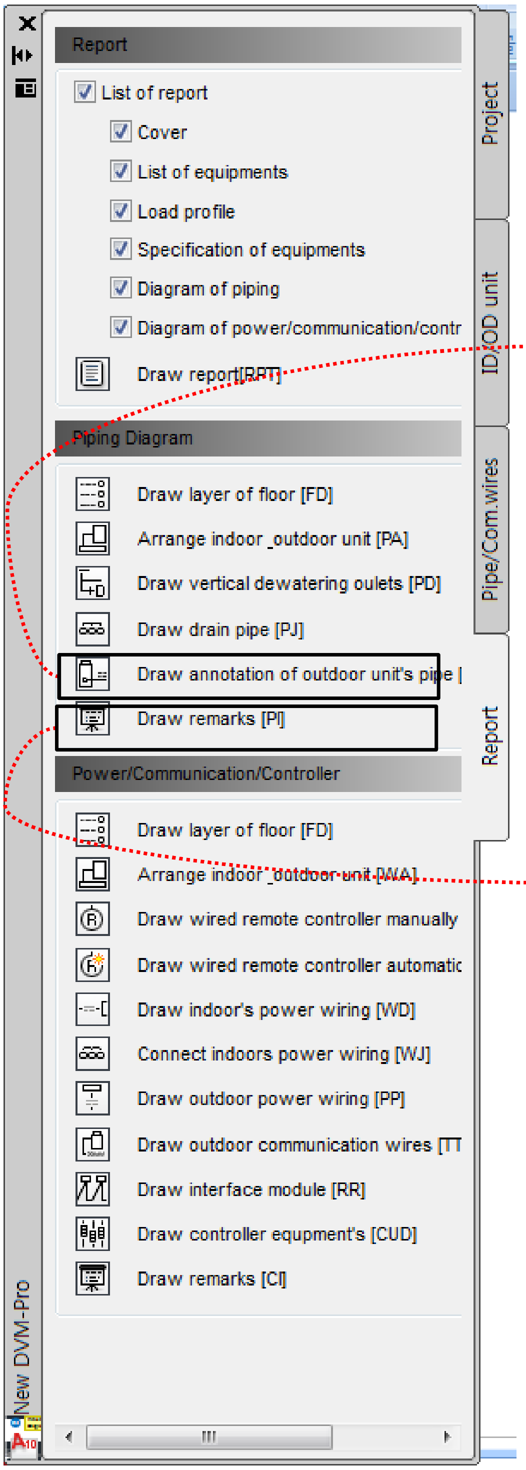
Drain pit Connection by clicking.

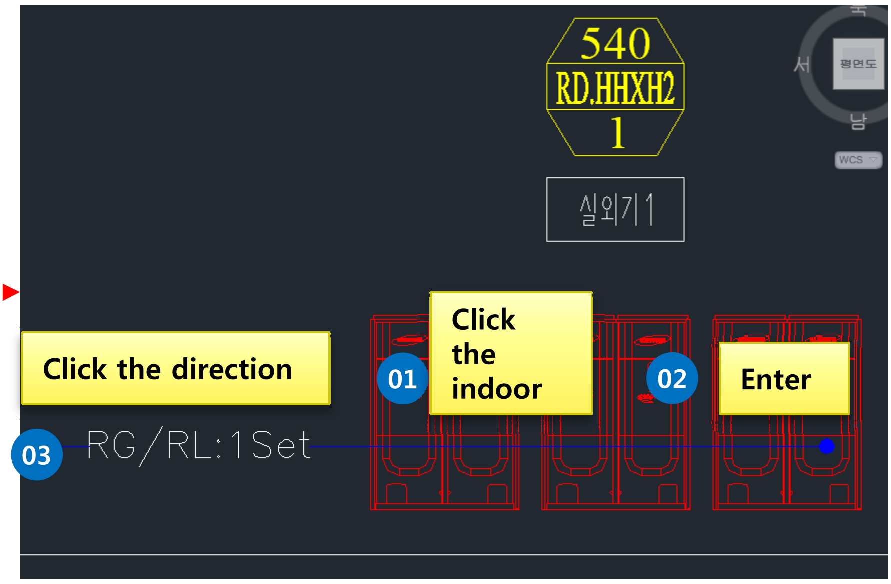


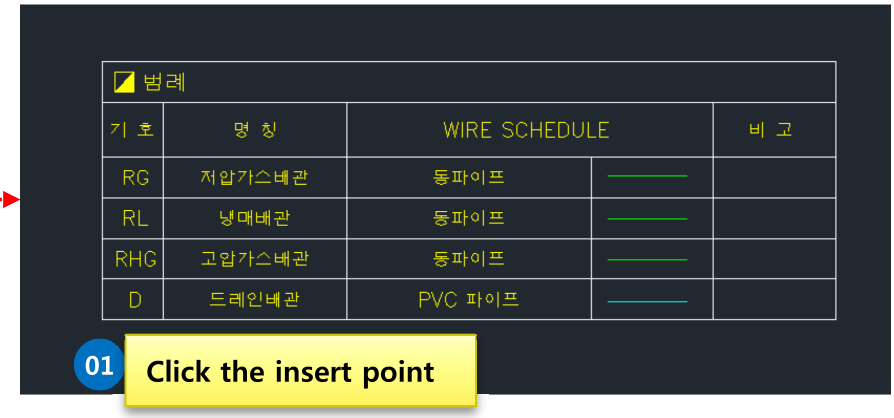
Specifies the arrow keys to move pipe height.

Explain

Click the piping diagram list in order. then Design the piping diagram.





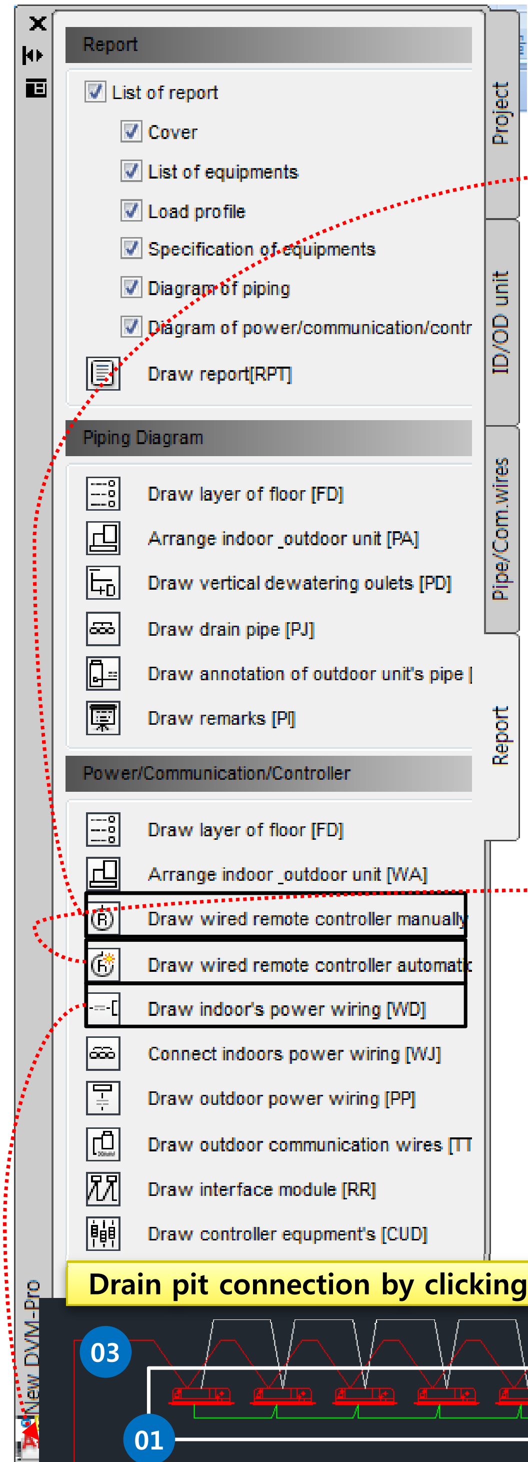


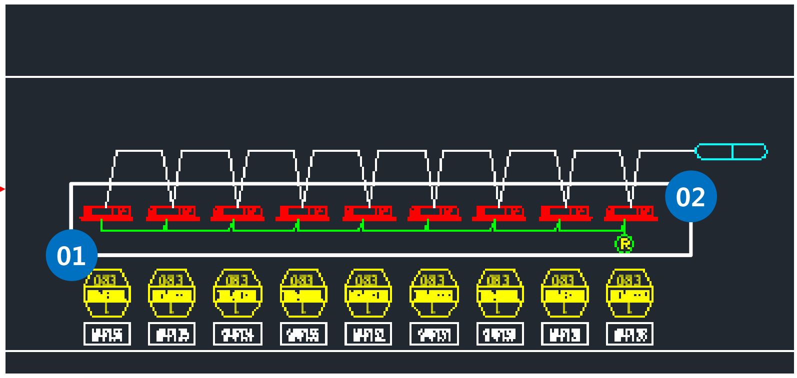
05 Step-by-step description of the design

(11) control Diagram-1

Explain

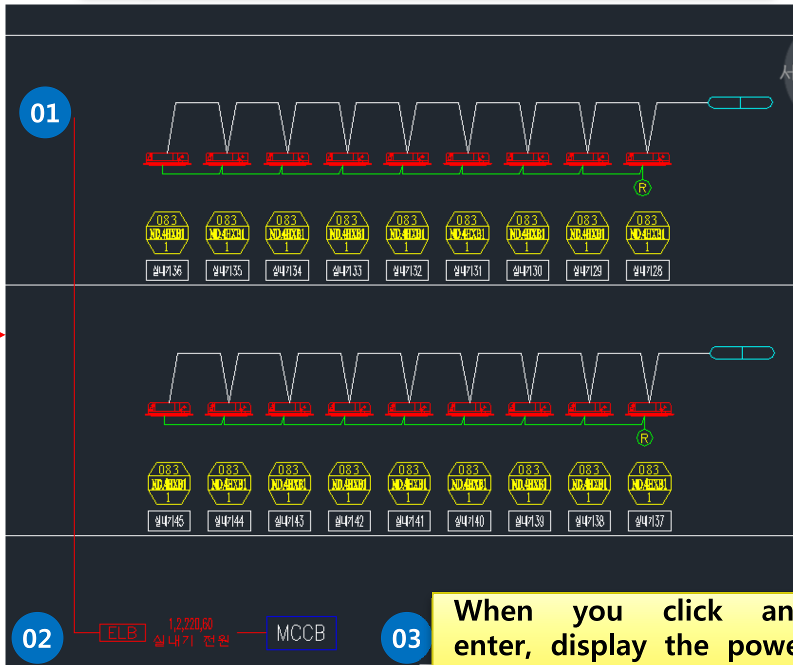
Click the piping diagram list in order. then Design the control diagram.





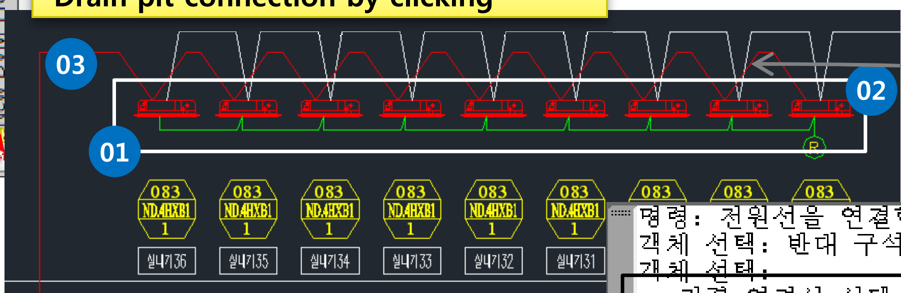
03

- **You can change the direction of the remote controller. it depend upon the direction of the mouse.**
- **It displayed such as indoor group of the plans.**

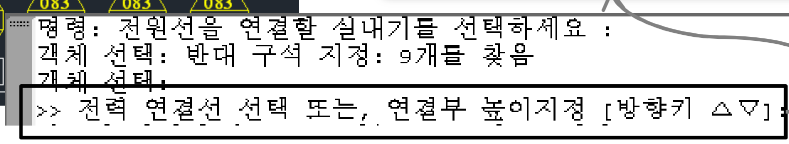


When you click and enter, display the power wire information.

Drain pit connection by clicking



Specifies the arrow keys to move pipe height.



05 Step-by-step description of the design

(11) control Diagram-2

Explain

Click the piping diagram list in order. then Design the control diagram.

